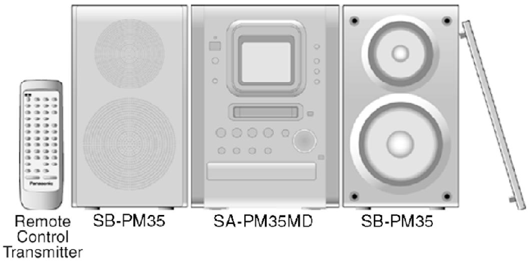
ORDER NO. MD0102022C3

Service Manual

MD Stereo System

SA-PM35MD

Colour
(W)... White Type
Area
(GCS)... Singapore
TAPE SECTION
AR2 MECHANISM SERIES
CD SECTION
RAE0155Z-1V TRAVERSE DECK SERIES
MD SECTION
MR3 MECHANISM SERIES


Remote Control Transmitter
SB-PM35
SA-PM35MD
SB-PM35

SPECIFICATIONS

Specification

■ Amplifier Section

RMS power output	
THD 10%, both channels driven	
HIGH	2 X 3 W (6 Ω)
LOW	2 X 15 W (6 Ω)
Total BI-AMP power	2 X 18 W
PMPO (Except for United Kingdom)	320 W
Input sensitivity	
AUX	480 mV
P-MD	160 mV
Input impedance	
AUX	25 kΩ
P-MD	5 kΩ
Output impedance	
Headphone	16-32 Ω

■ FM Tuner Section

Frequency range	87.50-108.00 MHz (0.05 MHz steps)
Sensitivity	1.8 μV (IHF)
S/N 26 dB	1.5 μV
Antenna terminals	75 Ω unbalanced

■ AM Tuner Section

Frequency range	
For others	522-1629 kHz (9 kHz steps) 520-1630 kHz (10 kHz steps)
Sensitivity	
S/N 20 dB	500 μV/m

■ Cassette Deck Section

Track system	4 track, 2 channel
Heads	
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100kHz
Erasing system	AC erase 100kHz
Tape speed	4.8 cm/s
Overall frequency reponse (-6dB at DECK OUT)	
NORMAL (TYPE I)	35 Hz - 14 kHz
HIGH (TYPE II)	35 Hz - 14 kHz
S/N ratio	
Normal (TYPE I)	50 dB (A weighted)
Wow and flutter	0.18 % (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

■ MD Section

System	Minidisc digital audio system
Recording	Magnetic field modulation direct overwrite
Reading	Non-contact optical system with semiconductor laser (Wavelength = 780nm)
Sampling frequency	44.1 kHz
Coding system	ATRAC

Number of channels	2 channels stereo
Wow and flutter	Below measurable limit

■ CD Section

Sampling frequency	44.1kHz
Decoding	16 bit linear
Beam source	Semiconductor laser
Wave length	780 nm
Number of channels	2 channels stereo
S/N ratio	
SP OUT	70 dB (JIS A)
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

■ General

Power supply	AC 220-240 V, 50/60 Hz
Power consumption	(For others) 67 W
Standby	0.7 W
Dimensions (WxHxD)	180x242x287 mm
Mass	4.8 kg

Notes :

1. Specifications are subject to change without notices. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

* US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

■ System: SC-PM35MD(GCS)	Music Center: SA-PM35MD(GCS) Speaker: SB-PM35(EG)

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

1. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C607, C635 and C637 through a 10Ω, 5W resistor to ground.

DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

- Current consumption at AC 240V, 50 Hz in NO SIGNAL mode should be ~200mA.

2. Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- **No sound is heard when the power is turned on.**
- **Sound stops during a performance.**

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.
If this occurs, follow the procedure outlines below:

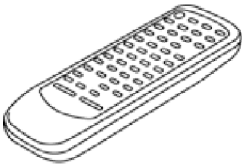
1. **Turn off the power.**
2. **Determine the cause of the problem and correct it.**
3. **Turn on the power once again after one minute.**

Note:
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

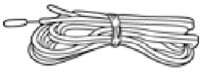
3. Accessories

Note : Refer to Packing Materials & Accessories for part number.

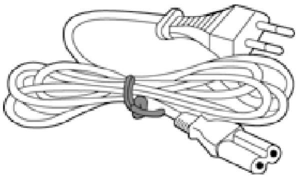
Remote Control Transmitter



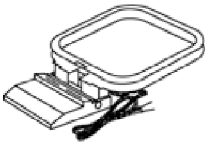
FM indoor antenna



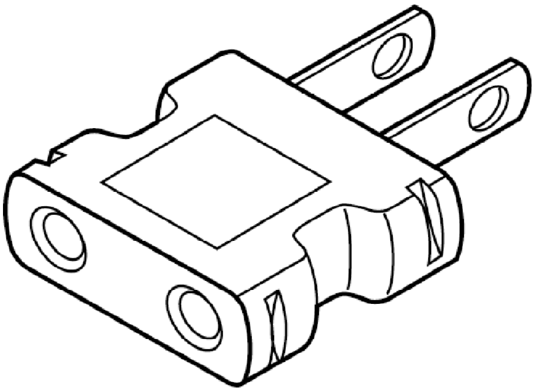
AC mains lead



AM Loop antenna



Power plug adaptor

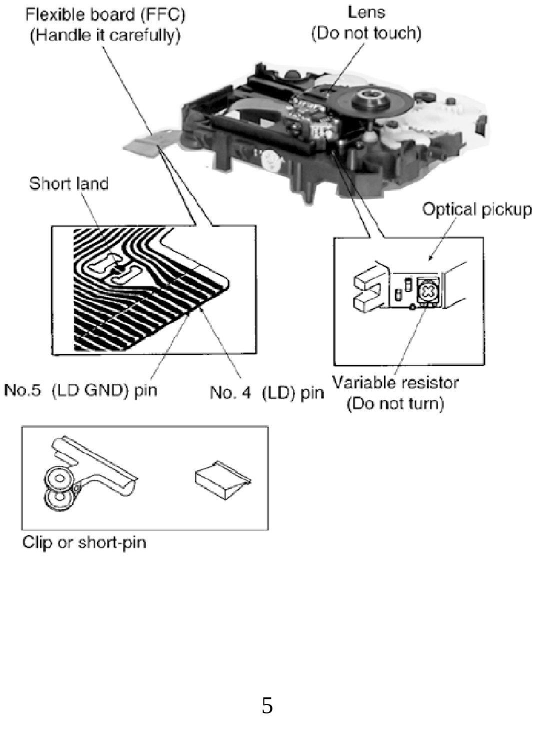


4. Handling Precautions For Traverse Deck (CD/MD)

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

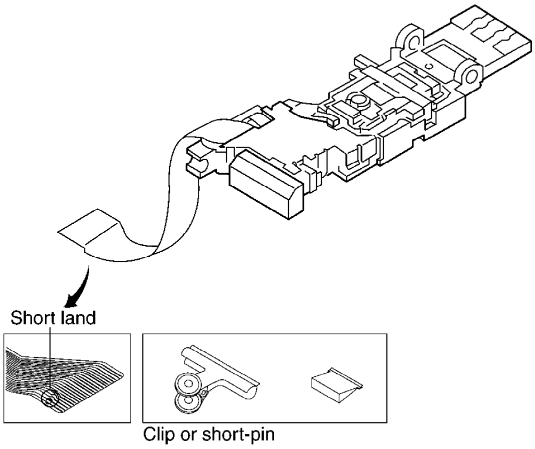
- **Handling of CD traverse deck (optical pickup)**

1. **Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.**
2. **The short land between the No.4 (LD) and No.5 (GND) pins on the flexible board (FFC) is shorted with a solder build-up to prevent damage to the laser diode.**
3. **Take care not to apply excessive stress to the flexible board (FPC board).**
4. **Do not turn the variable resistor (laser power adjustment). It has already been adjusted.**


Flexible board (FFC)
(Handle it carefully)
Lens
(Do not touch)
Short land
Optical pickup
No.5 (LD GND) pin
No. 4 (LD) pin
Variable resistor
(Do not turn)
Clip or short-pin

- **Handling of MD Unit (optical pickup)**

1. Do not subject the MD unit (optical pickup) to static electricity as it is extramely sensitive to electrical shock.
2. The short land between the No.25 (LD-GND) and No. 24 (LD) pins on the flexible board is shorted with a solder builder up to prevent damage to the laser diode.
3. Take care not to apply excessive stress to the flexible board (FFC).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted..

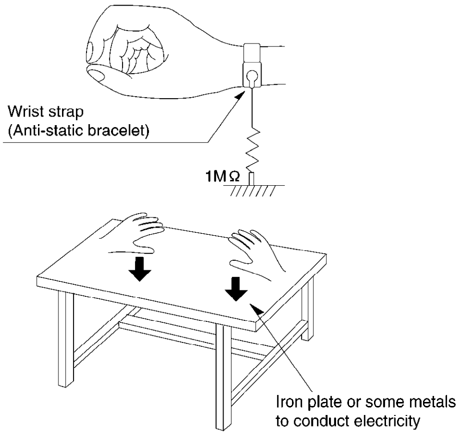


- **Grounding for electrostatic breakdown prevention**

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.

Caution :

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).



Caution when Replacing the Optical Pickup :

The traverse has a short point shorted with solder to protect the laser diode against electrostatics breakdown. Be sure to remove the solder from the short point before making connections.

5. Precaution of Laser Diode

Caution :

This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens. / Wavelength : 780 nm / Maximum output radiation power from pick up : 100 mW/VDE / Laser radiation from pick up unit is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG :

Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt. / Wellenlänge : 780nm / Maximale Strahlungsleistung der Lasereinheit :100W/VDE / Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der

freigelegten Laserdiode gefährlich ist.

2. Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

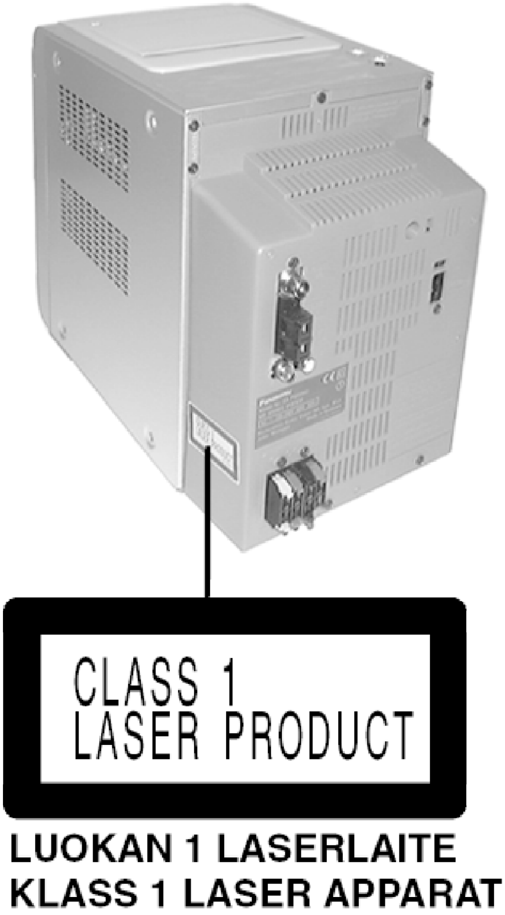
ADVARSEL :

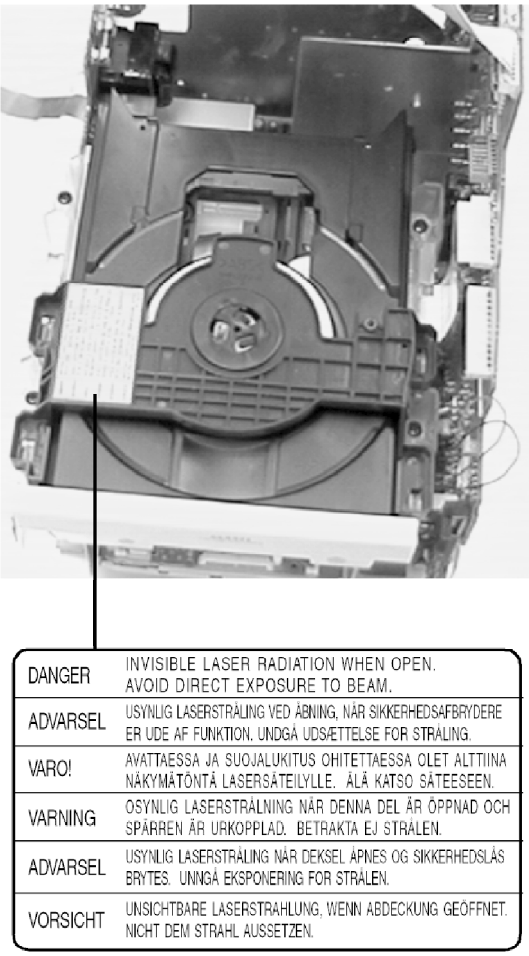
I dette a apparat anvendes laser.

CAUTION!

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN TH
SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

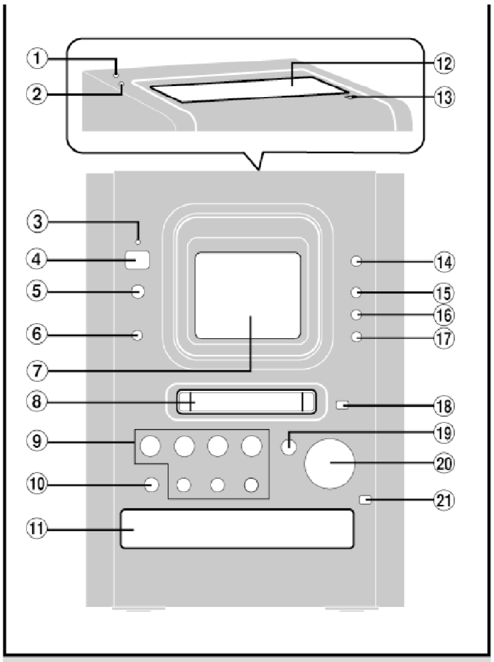
■ **Use of Caution Labels**


CLASS 1
LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT



DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

6. Operation Procedures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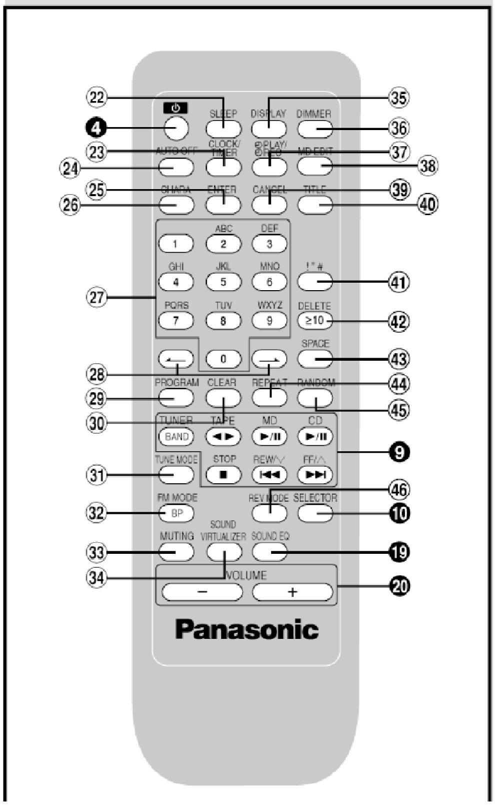
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⓴
SLEEP
DISPLAY
DIMMER
AUTO OFF
CLOCK/TIMER
PLAY/REC
MD EDIT
CHARA
ENTER
CANCEL
TITLE
ABC
DEF
1
2
3
GHI
JKL
MNO
!"#
4
5
6
PQRS
TUV
WXYZ
DELETE
7
8
9
≥10
SPACE
0
PROGRAM
CLEAR
REPEAT
RANDOM
TUNER
TAPE
MD
CD
BAND
TUNE MODE
STOP
REW/
FF/
FM MODE
REV MODE
SELECTOR
BP
SOUND
MUTING
VIRTUALIZER
SOUND EQ
VOLUME
−
+
Panasonic

Front panel controls

Main unit

① **Headphone jack (PHONES)**

② **P-MD terminal (P-MD)**

③ **AC supply indicator (AC IN)**
This indicator lights when the unit is connected to the AC mains supply.

④ **For United Kingdom**
Standby/on switch (⏻/I)
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.
For others
Standby/on switch (POWER ⏻/I)
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.

⑤ **Remote control signal sensor**

⑥ **Display select/demonstration button (DISPLAY, –DEMO)**

⑦ **Display**

⑧ **MD slot**

⑨ **Main operating buttons**

⑩ **Function select button (SELECTOR)**

⑪ **CD tray**

⑫ **Cassette holder**

⑬ **Cassette holder open button (⏏, OPEN)**

⑭ **MD/CD recording mode select, SP/LP mode select button (EDIT MODE, –SP/LP)**

⑮ **MD&TAPE record button (● MD&TAPE REC)**

⑯ **Tape record/pause button (● TAPE REC/⏸)**

⑰ **MD record/pause button (● MD REC/⏸)**

⑱ **MD eject button (⏏, EJECT)**

⑲ **Sound equalizer button (SOUND EQ)**

⑳ **Volume control (VOLUME)**

㉑ **CD tray open/close button (⏏ OPEN/CLOSE)**

Remote control

Buttons such as ❹ function in the same way as the controls on the main unit.

㉒ **Sleep button (SLEEP)**

㉓ **Clock/timer button (CLOCK/TIMER)**

㉔ **Auto power-off button (AUTO OFF)**

㉕ **Enter button (ENTER)**

㉖ **Character select button (CHARA)**

㉗ **Numbered, character buttons (1-9, 0, A-Z)**

㉘ **Cursor buttons (←, →)**

㉙ **Program button (PROGRAM)**

㉚ **Program clear button (CLEAR)**

㉛ **Tuning mode select button (TUNE MODE)**

㉜ **FM mode/BP select button (FM MODE, BP)**

㉝ **Muting button (MUTING)**

㉞ **Sound virtualizer button (SOUND VIRTUALIZER)**

㉟ **Display select button (DISPLAY)**

㊱ **Dimmer button (DIMMER)**

㊲ **Play/record timer button (⏲PLAY/⏲REC)**

㊳ **MD edit button (MD EDIT)**

㊴ **MD edit cancel button (CANCEL)**

㊵ **Title edit button (TITLE)**

㊶ **Symbol button (!"#)**

㊷ **Delete, ten and over button (≥10, DELETE)**

㊸ **Space button (SPACE)**

㊹ **Repeat button (REPEAT)**

㊺ **Random button (RANDOM)**

㊻ **Reverse mode select button (REV MODE)**

7. Operation Check and Main Component Replacement Procedures

"ATTENTION SERVICER"

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures.Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.
4. Refer the Parts No. on the page of "Main Component Replacement Procedures", if necessary.

Contents

- Checking Procedure for each major P.C.B.
- Checking of the Deck P.C.B.
- Checking for the Transformer P.C.B.
- Checking for the Main P.C.B.
- Checking for the CD Servo P.C.B.
- Checking for the MD Servo P.C.B.
- Checking for the Power P.C.B.
- Diaassembly and Assembly of the Disc Tray and CD Traverse Unit
- Disassembly of the Disc Tray
- Disassembly of the CD Traveerse Unit
- Main Component Replacement Procedure
- Replacement of the CD Servo P.C.B. and Optical Pick-up Unit
- Removal of the Deck P.C.B. and Mechanism P.C.B. for replacing parts
- Replacement for the Magnetic Head and Optical Pick-up
- Replacement for the Belt and Loading Motor Assembly
- Replacement for the Traverse Motor Assembly

Warning :-

This product uses a laser diode. Refer to caution statement Precaution of Laser Diode.

ACHTUNG :-

- Die Lasereinheit nicht zerlegen.
- Die Lasereinheit darf nur gegen eine vom Hertsteller spezifizierte

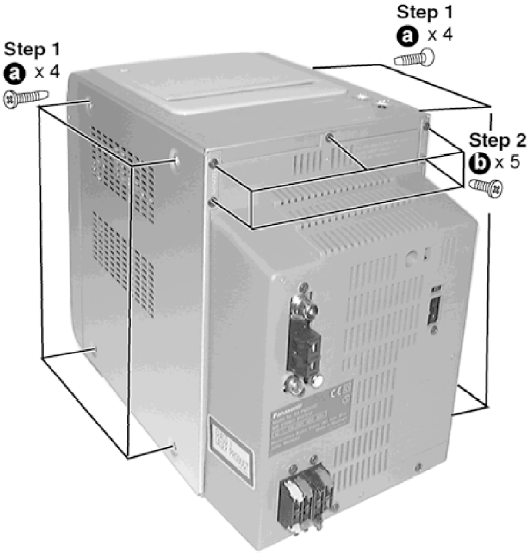
Einheit ausgetauscht werden.

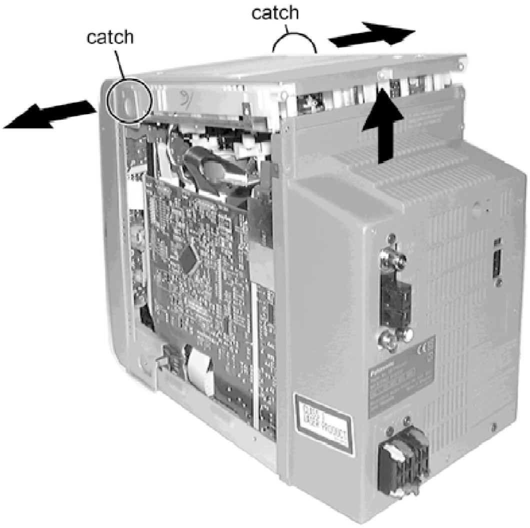
7.1. Checking Procedure for Each Major P.C.B.

7.1.1. Checking for the Deck P.C.B.

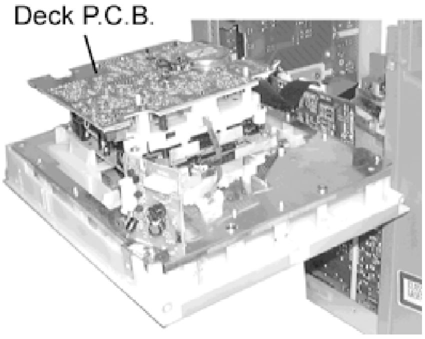
Step 1 Remove 4 screws each side.

Step 2 Remove 5 screws.


Step 1
a x 4
Step 1
a x 4
Step 2
b x 5

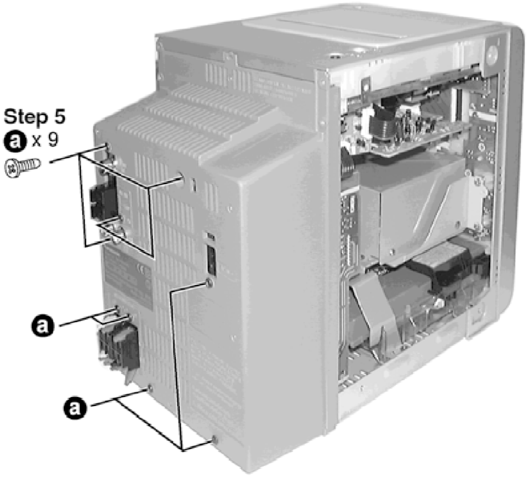

catch
catch

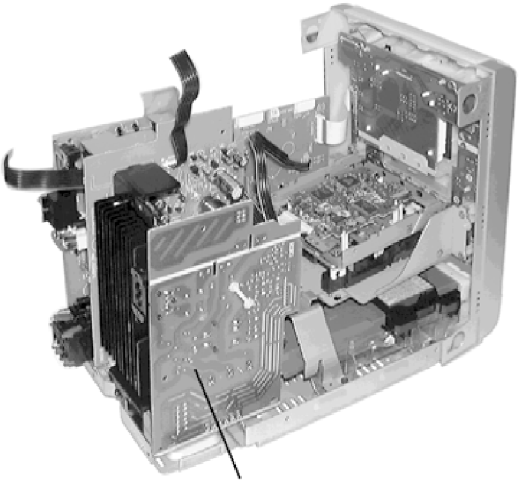
Step 3 Lift up the deck unit and push catches each side.



- Check the Deck P.C.B. as shown.

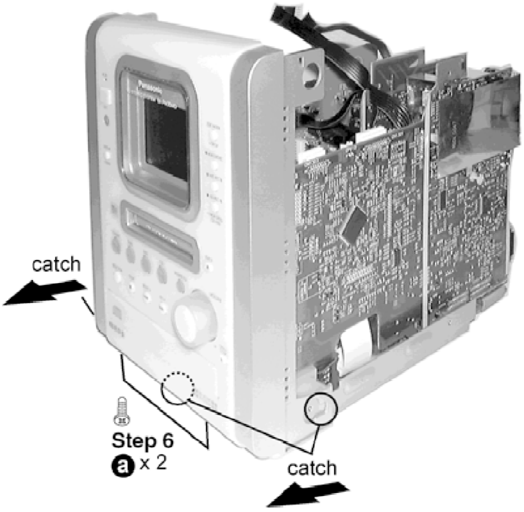
7.1.2. Checking for the Transformer P.C.B.


Step 5
a x 9
a
a

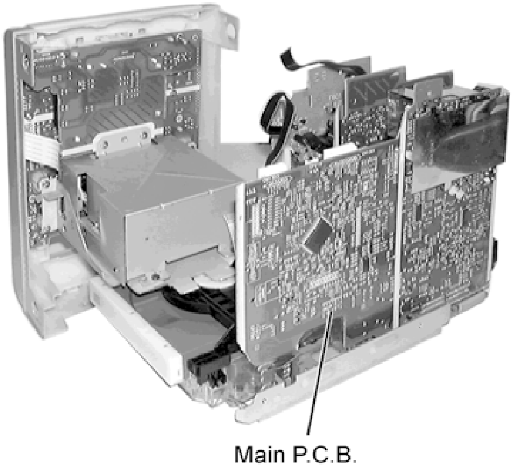

Transformer P.C.B.

- Check the Transformer P.C.B. as shown.

7.1.3. Checking for the Main P.C.B.

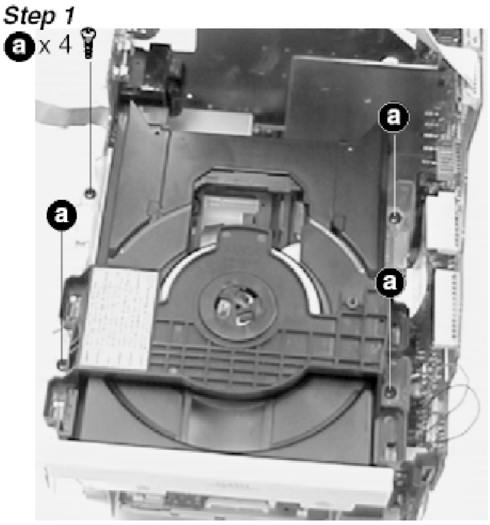

catch
Step 6
a x 2
catch

Step 6 Remove 2 screws below, push catches each side.

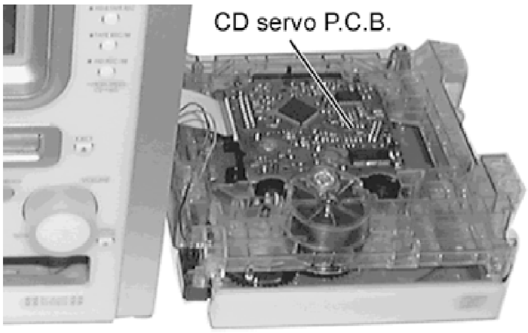


- Check the Main P.C.B. as shown.

7.1.4. Checking for the CD Servo P.C.B.

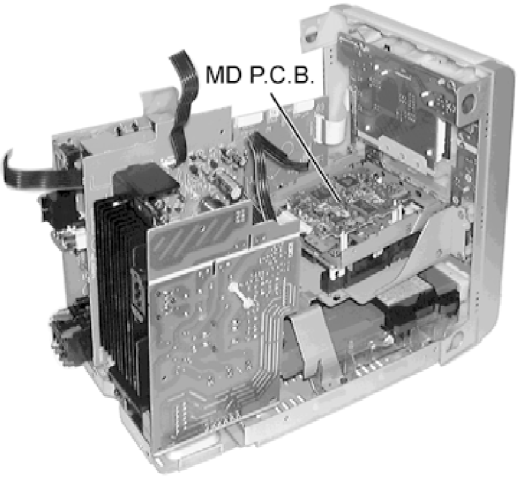

Step 1
a x 4
a
a
a

Step 2 Lift up the CD unit and place it as shown in the following figure.

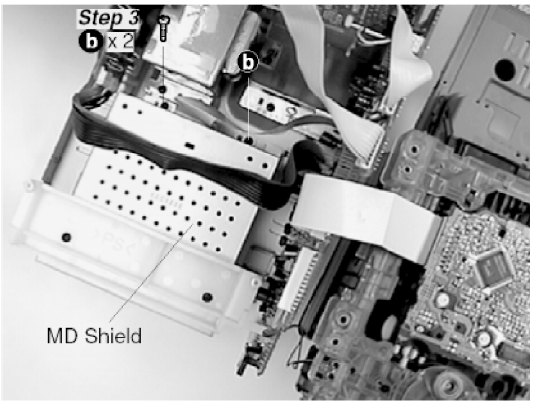

CD servo P.C.B.

- Check the CD Servo P.C.B. as shown.

7.1.5. Checking for the MD Servo P.C.B.



Step 2 Remove the CD fixture (B).

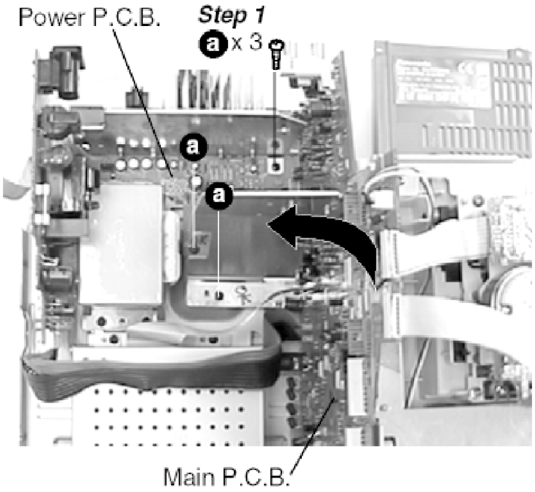

Step 3
b x 2
b
MD Shield

Step 4 Remove the MD shield and place the MD Servo unit as shown in the following figure.

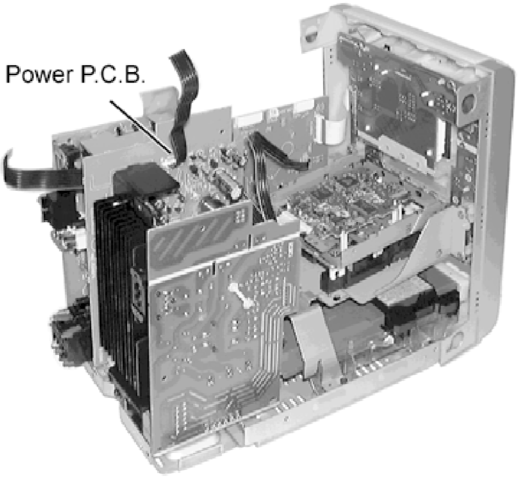
- Check the MD Servo P.C.B. as shown.

- When checking the IC1 on the MD Servo P.C.B., it can be measured with test point on the MD Servo P.C.B.

7.1.6. Checking for the Power P.C.B.


Power P.C.B.
Step 1
a x 3
a
a
Main P.C.B.

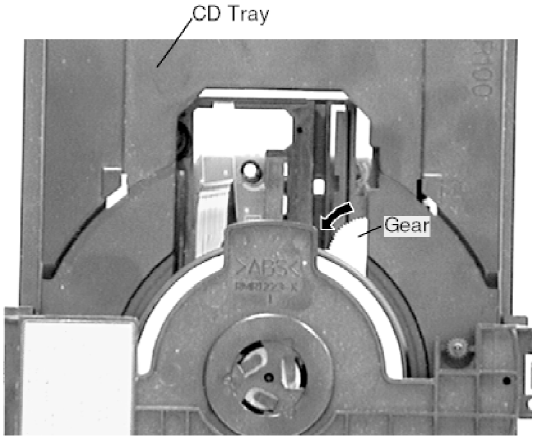
Step 2 Lift up the Main P.C.B. together with the Power P.C.B. and rotate left then place the P.C.B. as shown in the following figure.



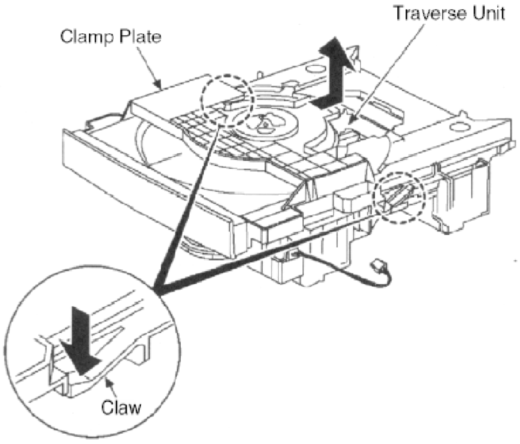
- Check the Power P.C.B. as shown.

7.2. Disassembly and Assembly of the Disc Tray and CD Traverse Unit

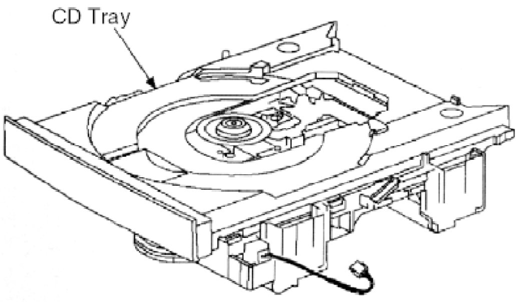
7.2.1. Disassembly of the Disc Tray.


CD Tray
Gear

Step 1 Turn the gear counter clock wise until the CD Tray starts to move out.

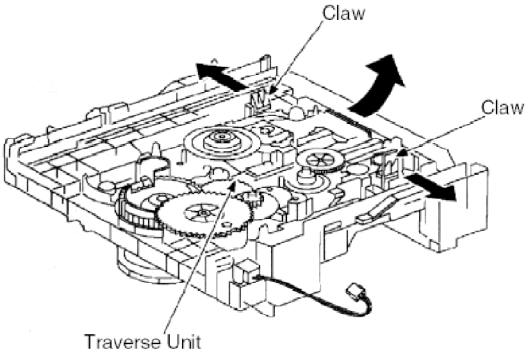

Traverse Unit
Clamp Plate
Claw

Step 2 Release the 2 claws and remove the clamp plate in the direction of the arrow.

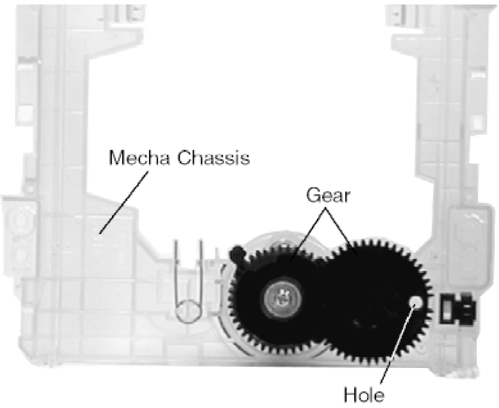


Step 3 Lift up the CD Tray to remove it.

7.2.2. Disassembly of the CD Traverse Unit.

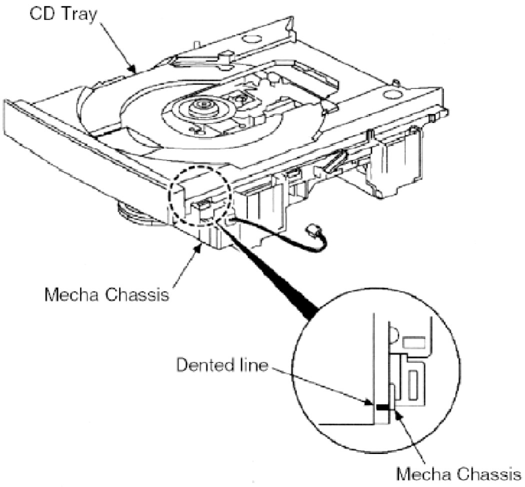

Claw
Claw
Traverse Unit

Step 1 Release the 2 claws and remove the CD Traverse Unit in the direction of the arrow.


Mecha Chassis
Gear
Hole

NOTE :

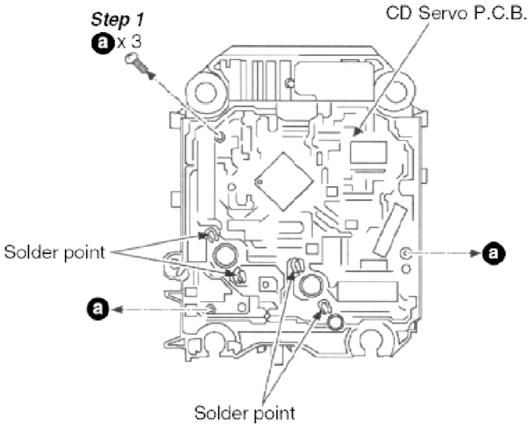
1. **Follow the reverse procedure to replace the CD Traverse Unit and CD Tray.**
2. **Make sure that the 2 gear is in position shown above and the hole on the right gear is align with the hole below it when replacing the CD Traverse Unit and CD Tray.**


CD Tray
Mecha Chassis
Dented line
Mecha Chassis

NOTE : When replacing the CD Tray, make sure the Dented line is at the position as shown.

7.3. Main Component Replacement Procedure

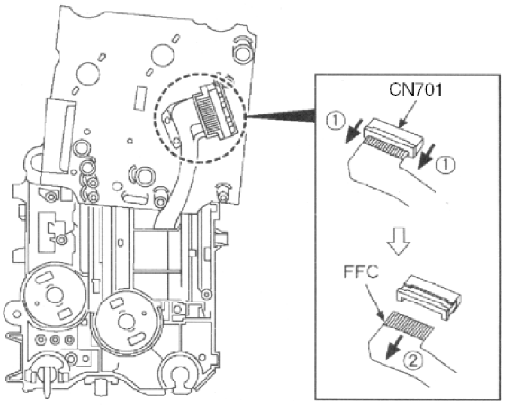
7.3.1. Replacement of the CD Servo P.C.B. and Optical Pick-up Unit.

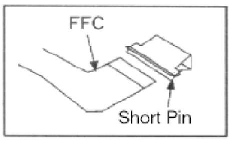

Step 1
ⓐ x 3
CD Servo P.C.B.
Solder point
ⓐ
ⓐ
Solder point

Step 2 Desolder the 4 legs of 2 motors and flip over the CD Servo P.C.B.

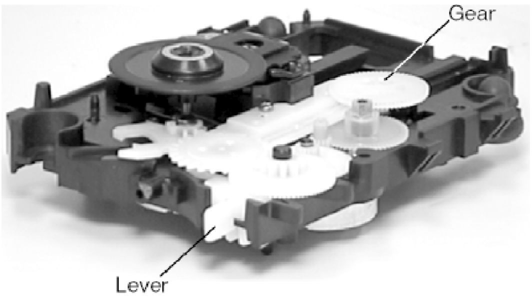
Step 3 Remove the flexible cable at CN701.

- **Removal of the flexible cable / Push the top of the connector in the direction of the arrow 1 and then pull out the flexible cable in the direction of the arrow 2.**

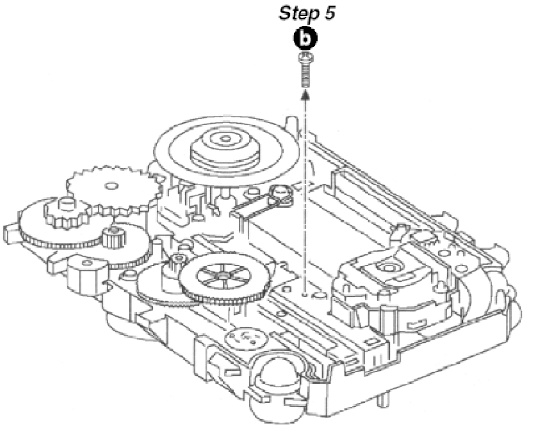

CN701
①
①
FFC
②

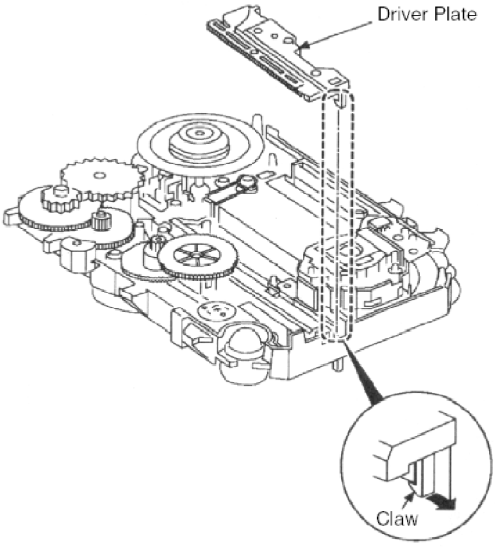

FFC
Short Pin

NOTE : Insert a short pin into the flexible cable.

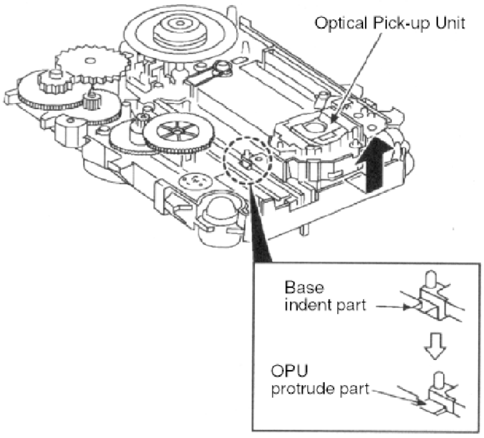


Step 4 Push the lever in and turn the gear clock wise fully.

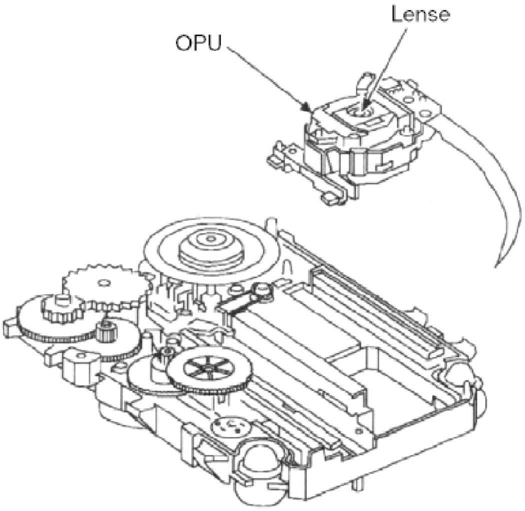



Driver Plate
Claw

Step 6 Release the claw and remove the Driver Plate.

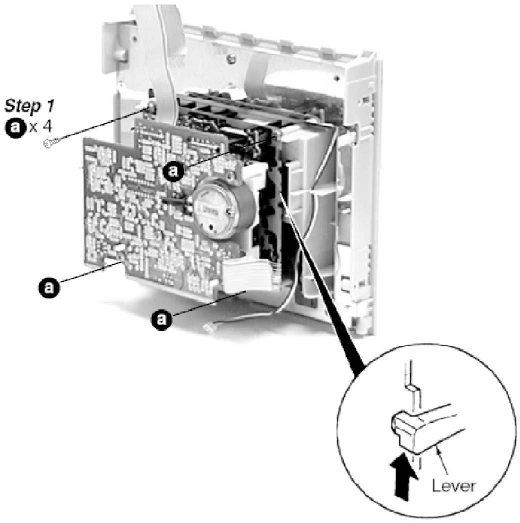

Optical Pick-up Unit
Base
indent part
OPU
protrude part

Step 7 Slide out the Optical Pick-up Unit from the indent opening.

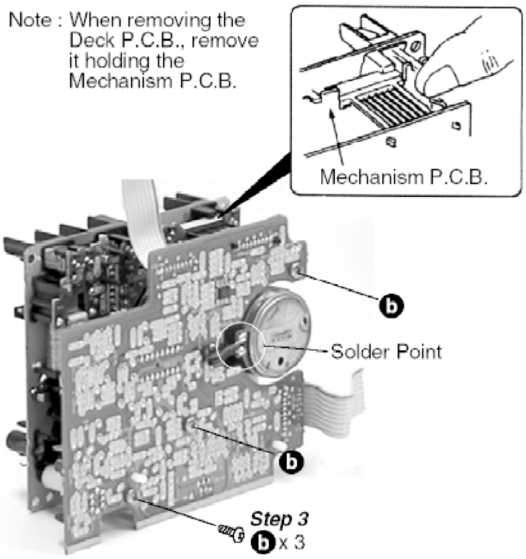


NOTE : Do not touch the Lense on the OPU.

7.3.2. Removal of the Deck P.C.B. and Mechanism P.C.B. for replacing parts.


Step 1
a x 4
a
a
a
Lever

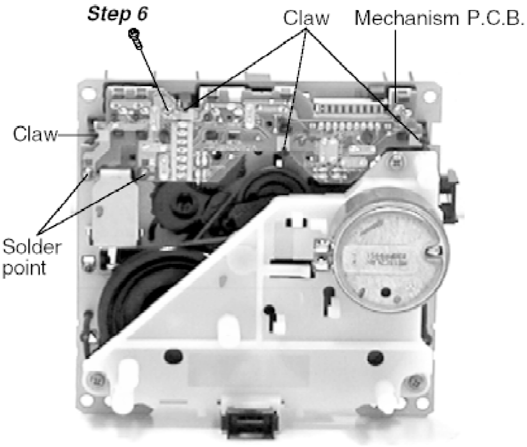
Step 2 Push the lever upward to open the cassette lid and remove the deck unit.


Note : When removing the Deck P.C.B., remove it holding the Mechanism P.C.B.

Mechanism P.C.B.
b
Solder Point
b
Step 3
b x 3

Step 4 Desolder the motor wires.

Step 5 Remove the Deck P.C.B.

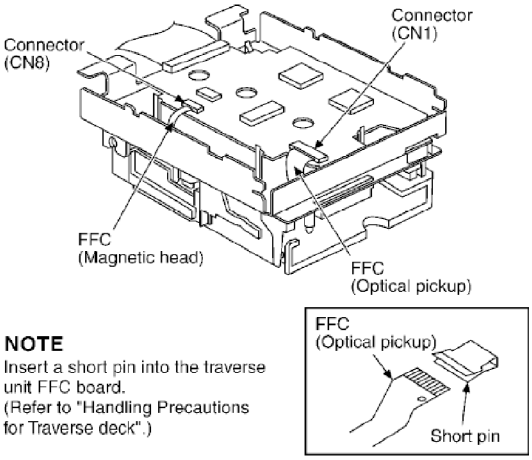

Step 6
Claw
Mechanism P.C.B.
Claw
Solder
point

Step 7 Desolder the plunger terminals.

Step 8 Release the 4 claws and remove the Mechanism P.C.B.

7.3.3. Replacement for the Magnetic Head and Optical Pick-up.

Step 1 Remove the 2 FFCs from the connector.

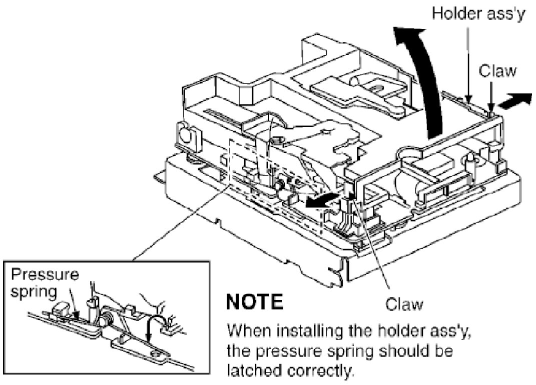

Connector
(CN8)
Connector
(CN1)
FFC
(Magnetic head)
FFC
(Optical pickup)
FFC
(Optical pickup)
Short pin

NOTE

Insert a short pin into the traverse unit FFC board.
(Refer to "Handling Precautions for Traverse deck".)

Step 2 Remove the pressure spring from latch.

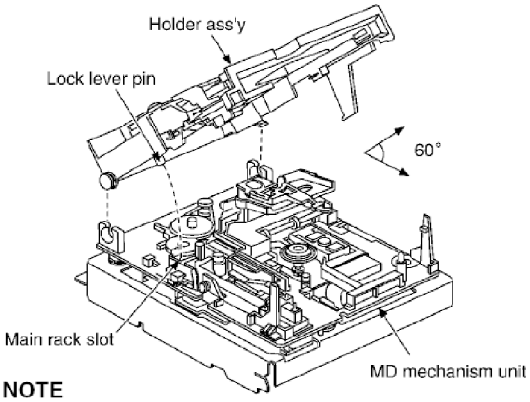
Step 3 Release the 2 claws and then lift up the holder ass’y.


Holder ass'y
Claw
Pressure
spring
Claw

NOTE

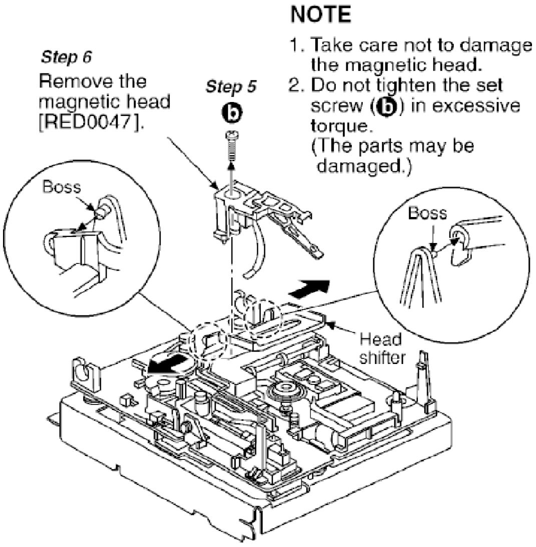
When installing the holder ass'y, the pressure spring should be latched correctly.

Step 4 Set the holder ass’y and MD mechanism unit at a 60 degree angle and then pull out the holder ass’y.

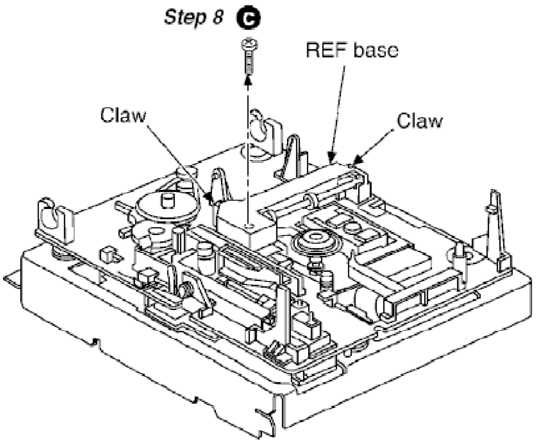

Holder ass'y
Lock lever pin
60°
Main rack slot
MD mechanism unit

NOTE

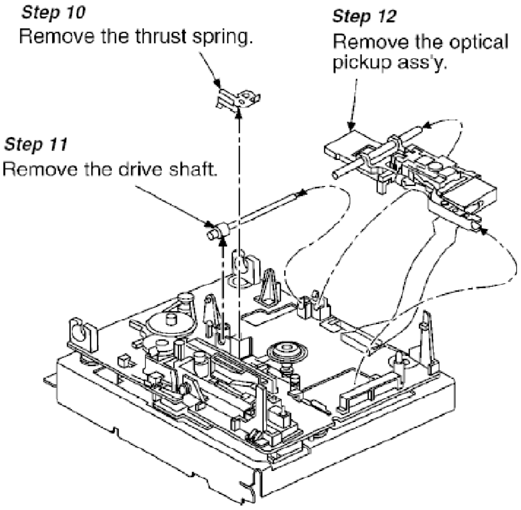
When installing the holder ass'y, align the lock lever pin with the main rack slot.

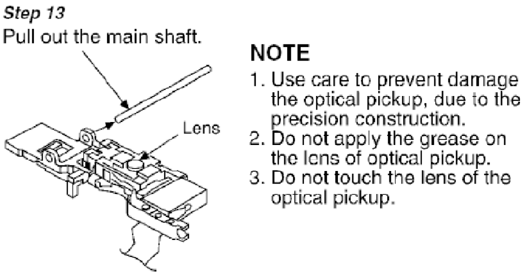

NOTE
1. Take care not to damage the magnetic head.
2. Do not tighten the set screw (ⓑ) in excessive torque. (The parts may be damaged.)
Step 6
Remove the magnetic head [RED0047].
Step 5
ⓑ
Boss
Boss
Head shifter

Step 7 Spread the lugs of head shifter and then release the lugs from boss.


Step 8 ⓒ
REF base
Claw
Claw

Step 9 Release the 2 claws and then remove the REF base.


Step 10
Remove the thrust spring.
Step 12
Remove the optical pickup ass'y.
Step 11
Remove the drive shaft.

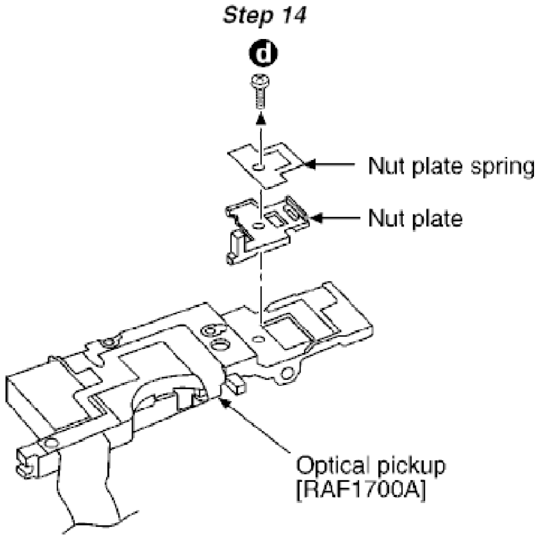


Step 13

Pull out the main shaft.

NOTE

1. Use care to prevent damage the optical pickup, due to the precision construction.
2. Do not apply the grease on the lens of optical pickup.
3. Do not touch the lens of the optical pickup.

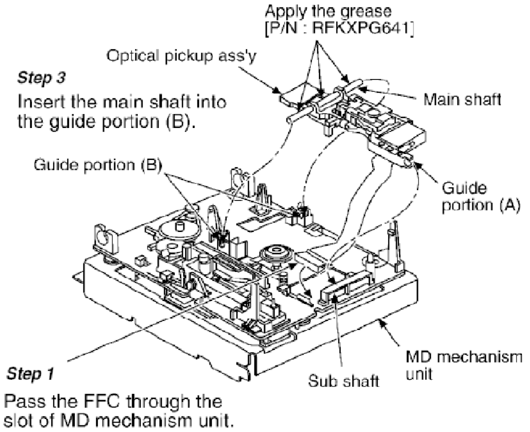


Step 14

d
Nut plate spring
Nut plate
Optical pickup
[RAF1700A]

Step 15 Remove the nut plate spring and nut plate.

Notice for installing the optical pickup



Step 3

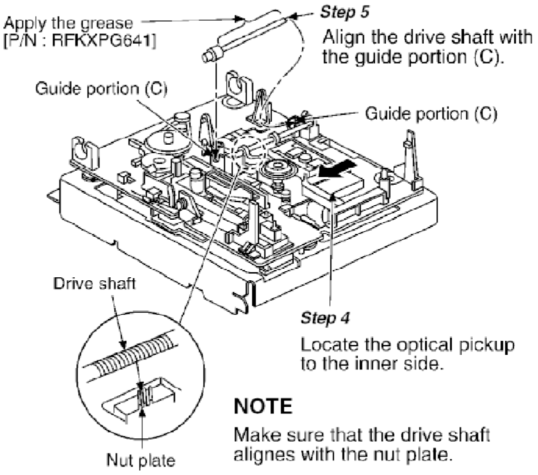
Insert the main shaft into the guide portion (B).

Step 1

Pass the FFC through the slot of MD mechanism unit.

Apply the grease
[P/N : RFKXPG641]
Optical pickup ass'y
Main shaft
Guide portion (B)
Guide
portion (A)
MD mechanism
unit
Sub shaft

Step 2 Align the guide portion (A) of optical pickup with the sub shaft.
Note : Take care not to bend the FFC.

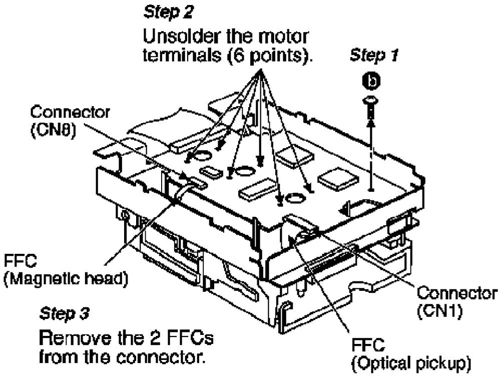

Apply the grease
[P/N : RFKXPG641]
Guide portion (C)
Guide portion (C)
Drive shaft
Nut plate

Step 5
Align the drive shaft with the guide portion (C).

Step 4
Locate the optical pickup to the inner side.

NOTE
Make sure that the drive shaft alignes with the nut plate.

7.3.4. Replacement for the Belt and Loading Motor Assembly

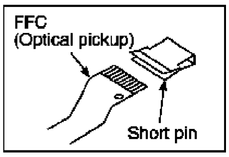

b
Connector
(CN8)
FFC
(Magnetic head)
Connector
(CN1)
FFC
(Optical pickup)

Step 2
Unsolder the motor terminals (6 points).

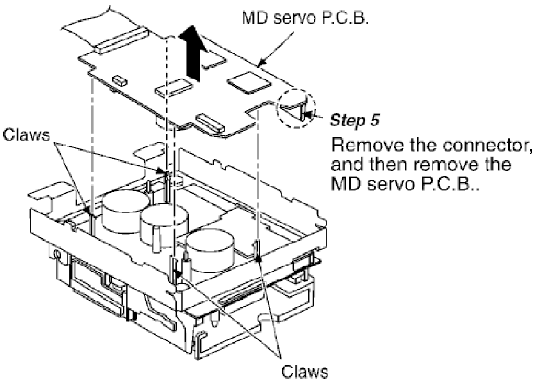
Step 1

Step 3
Remove the 2 FFCs from the connector.

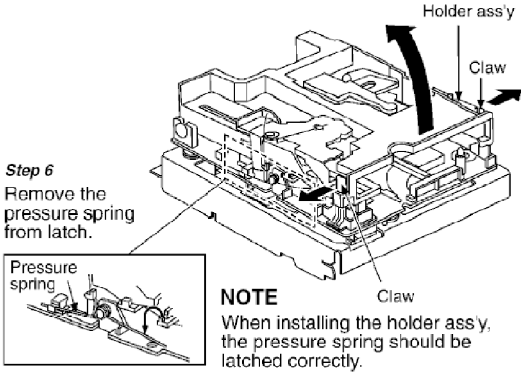
NOTE
Insert a short pin into the traverse unit FFC borad.
(Refer to "Handling Precautions for Traverse deck".)


FFC
(Optical pickup)
Short pin

Step 4 Release the 4 claws.


MD servo P.C.B.
Claws
Claws

Step 5
Remove the connector, and then remove the MD servo P.C.B..

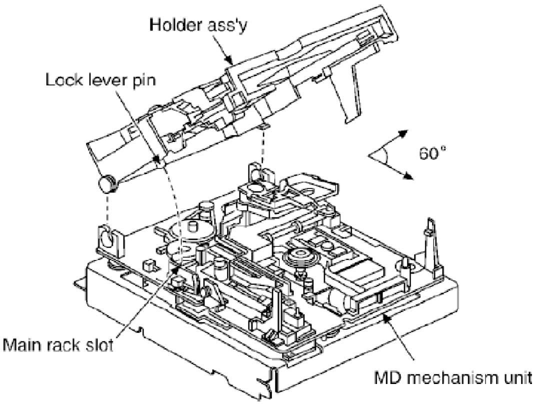


Step 6
Remove the pressure spring from latch.

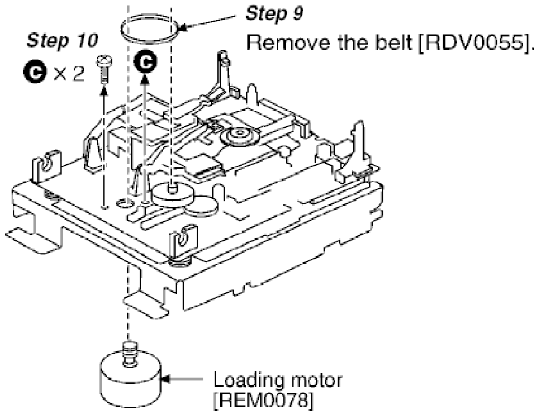
NOTE
When installing the holder ass'y, the pressure spring should be latched correctly.

Holder ass'y
Claw
Pressure spring
Claw

Step 7 Release the 2 claws and then lift up the holder ass'y.


Holder ass'y
Lock lever pin
60°
Main rack slot
MD mechanism unit

Note : When installing the holder ass'y, align the lock lever pin with the main rack slot.
Step 8 Set the holder ass'y and MD mechanism unit at a 60 degree angle, and then pull out the holder ass'y.

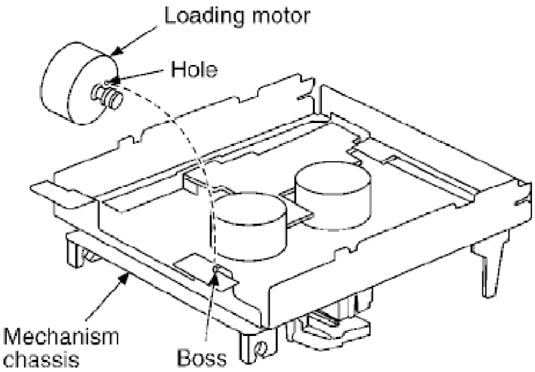


Step 9
Remove the belt [RDV0055].

Step 10

Ⓒ × 2
Ⓒ
Loading motor
[REM0078]

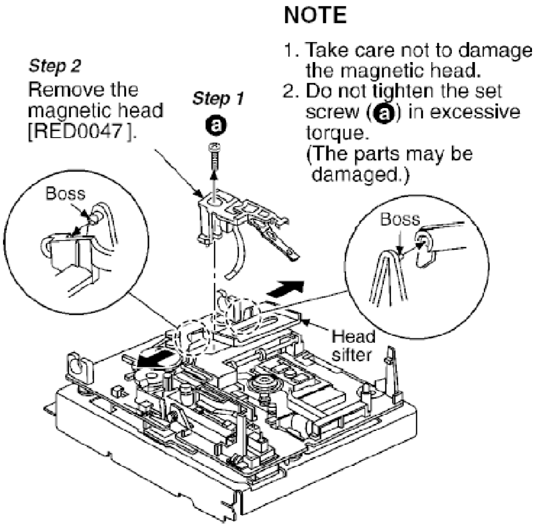
Notice for installing the loading motor


Loading motor
Hole
Mechanism chassis
Boss

- Align the hole of loading motor with the boss of mechanism chassis and then install the loading motor.

7.3.5. Replacement for the Traverse Motor Assembly

- Follow Step 1 ~ Step 8 of item 1.3.4 in Main Component Replacement Procedures.

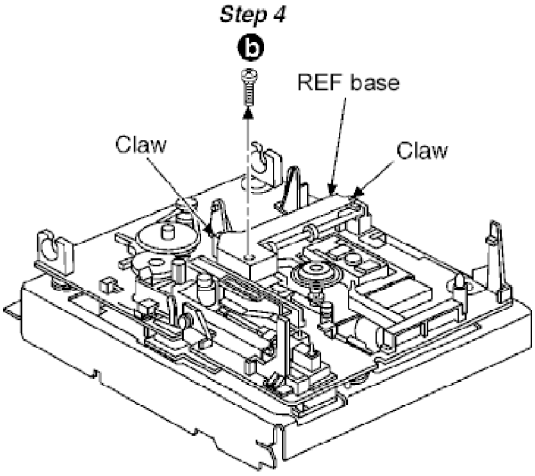

Step 2
Remove the magnetic head [RED0047].

Step 1
ⓐ

NOTE
1. Take care not to damage the magnetic head.
2. Do not tighten the set screw (ⓐ) in excessive torque. (The parts may be damaged.)

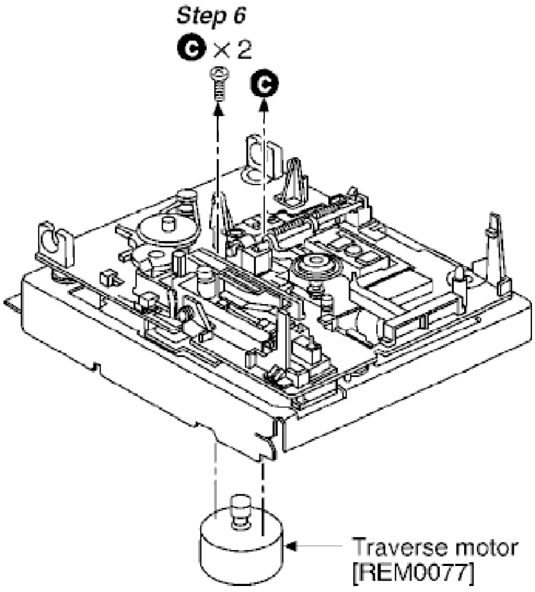
Boss
Boss
Head sifter

Step 3 Spread the lugs of head shifter and then release the lugs from boss.


Step 4
ⓑ

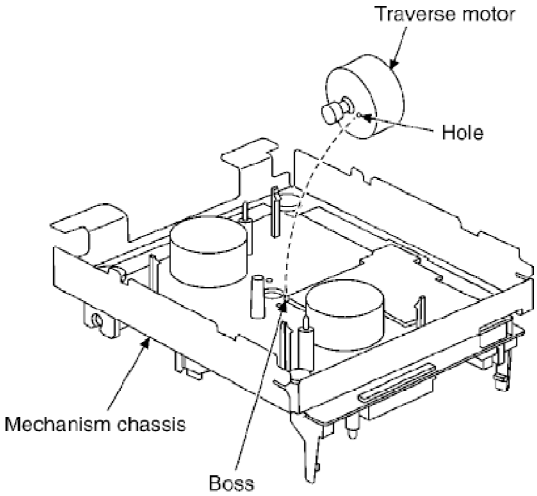
REF base
Claw
Claw

Step 5 Release the 2 claws and then remove the REF base.


Step 6
C × 2
C
Traverse motor
[REM0077]

Notice for installing the traverse motor

- Align the hole of traverse motor with the boss of mechanism chassis and then install the traverse motor.


Traverse motor
Hole
Mechanism chassis
Boss

8. Self-Diagnostic Display Function

This unit is equipped with a self-diagnostic function which, in the event of a malfunction, automatucally display a code indication the nature of the malfunction. Use this self-diagnostic function when servicing the unit.

8.1. Entering self-diagnostic Mode

1. Turn the power on.

2. Press CD play button with no CD, cassette or MD loaded.

3. Press and hold the STOP button for at least 2 seconds, and while

still pressing the STOP button, press the Forward Skip/Search button for at least 2 seconds. The unit enters Self-Diagnostic Mode and display “TEST”. Then an error code (e.g. H01) is displayed, if any. In the case of no error, “TEST” is displayed on FL.

4. If more than 1 error exists, the display will sequentially show the respective error codes each time the STOP button is pressed.

8.2. Cassette Mechanism Test (For error code H01, H02, H03, H06, F01, F02)

1. Load a cassette tape with the erasure prevention tab, remove from left side only and close the cassette holder.
2. Press "Forward Skip/Search" (Tape will be stop after 2 seconds).
3. Load a cassette tape with the erasure prevention tab, remove from right side only and close the cassette holder.
4. Press "Reverse Skip/Search" (Tape will be stop after 2 seconds).
5. Load a pre-recorded tape with both side record tabs intact and close the cassette holder.
6. Press "Tape Play" (After TPS function, tape will stop automatically).
7. Press "Tape Record" (Tape will not move).
8. Press "Stop" to indicate Error code.ve).
   ~ If several problem exist, error code will change each time when "Stop" is pressed.
   (e.g. H01 → H03 → F01 ..... etc.)

8.3. Clearing all error code

1. Press and hold STOP button for 5 seconds.
2. FL indicator shows “CLEAR” for 1 second and change to “TEST”.

8.4. Cancelling the Self-Diagnostic mode

1. Press the “Power” button to turn off the system. Press the “Power” button again to turn on the system.

8.5. Description of error code

8.5.1. Power Amplifier Failure (F76)

When power amplifier output failure for power supply failure.

8.5.2. Error detection for CD Block

Error Code	Problem Condition	Possible Cause
F15	**CD does not function**	**REST SW detection error.** **This error occurs when the Optical Pick Up REST SW (S701)** **detected within the specified time. (about 8 seconds).**
H15	**The CD tray closes**	**CD disc tray detect switch NG. (Check and replace)**
F26	**CD does not function**	**Transmission error between CD servo LSI and micon.** **This error occurs between CD servo LSI and micon. This err** **when the POWER is ON for the CD block and an error is dete** **the transmission has started.**

8.5.3. Error dection code for MD block

Error Code	Problem Condition	Possible Cause
MD F15	**Interval till MD starts playing is too long**	**Pickup home position sense switch (S8) is defective; check** **replace if neccessary.**
MD F26	**MD is loaded but cannot be played**	**Communication error between the servo processor IC and th** **microprocessor IC (system control). Check if the flexible circ** **is disconnected.** **Displayed when the disc is scratched too.**
F22	**MD cannot be loaded**	**MD loading motor or MD loading mechanism error; check an**
F28	**MD cannot be loaded**	**Confirm that the disc is not catching on anything.** **The connection (flexible circuit board or connector cable) be** **MD unit and the MD servo circuit board is disconnected or d** **check and replace if neccessary.** **The MD unit may be malfunctioning; replace it.**
F29	**MD cannot be ejected**	**Confirm that the disc is not catching anything.** **The connection (flexible circuit board or connector cable) be** **MD unit and the MD servo circuit board is disconnected or d** **check and replace if neccessary.** **The MD unit may be malfunctioning; replace it.**

8.5.4. Error detection code for Cassette Mechanism Block

Error Code	Problem Condition	Possible Cause
H01	Cassette deck maifunctions	MODE SW detection error. Faulty contact or short circuit of mechanism mode switch. (
H02	Recording not possible	REC INH SW detection error. Faulty contact or short circuit of REC INH switch. (S974, S9
H03	Playback cannot perform.	HALF SW detection error. Faulty contact or short circuit of HALF switch. (S972)
H06	No treble is produce when a normal tape is CrO2 SW detection error played or recorded. Excessive treble is produces when a CrO2 /Metal tape is played, or the recorded treble is destorted and at a low level.	Cr02 SW detection error. Faulty contact or short circuit of CrO2 switch (S973).
F01	The tape advances slightly and then stops.	Reel pulse detection error. Faulty reel pulse, faulty hole detect IC. (IC971)
F02	Cassette deck will not perform TPS function	Faulty TPS drive IC. (IC303)

9. Measurement and Adjustment

9.1. Cassette Deck Section

Measurement condition

- Record timer : OFF
- Make sure head, capstan and pressure roller are clean.
- Judgeable room temperature 20 ± 5 °C (68 ± 9 °F)

Measuring instrument

- EVM (Electronic Voltmeter)
- Digital frequency counter

Test tape

- Headazimuth adjustment (8 kHz, -20 dB); QZZCFM
- Tape speed adjustment (3 kHz, -10 dB); QZZCWAT
- Playback gain adjustment (315 Hz, 0 dB); QZZCFM
- Normal reference blank tape; QZZCRA
- CrO2 blank tape; QZZCRX

9.1.1. Head Azimuth Adjustment

Note :

If you wish to readjust the head azimuth, be sure to adjust with adhering the casette tape closely to the mechanism by pushing the cebter of cassette tape with your finger. (Shown in Fig. 1)

1. Connect the measuring instrument as shown in Fig. 2.

2. Replace azimuth screws for both forward and reverse direction after removing the screw-locking bond left on the head base. (Supply part No. of azimath adjusting screw: RHD17015)

3. Playback the azimuth adjustment portion(8kHz, -20dB) of test tape(QZZCFM). Adjust the azimuth adjusting screw until the outputs of the L/Rch are maximized. (Refer to Fig. 3)
Make sure that the difference in the peak level between the left and right channels does not exceed 5dB.

4. Perform the same adjustment in reverse playback mode.
Check of the level difference forward and reverse directions

5. Playback the playback gain adjustment portion(315Hz, 0dB) of test tape(QZZCFM). Check if level difference between forward and reverse direction is within 1.5dB.

6. After the adjustment, apply screwlock to the azimuth adjusting screw.

Fig. 1

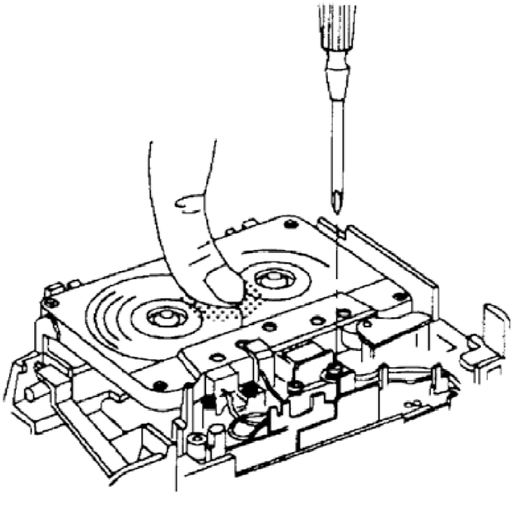


Fig. 2

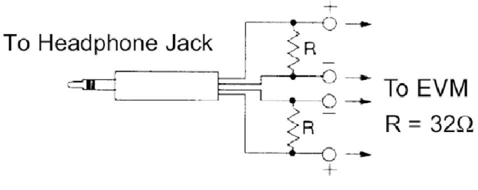
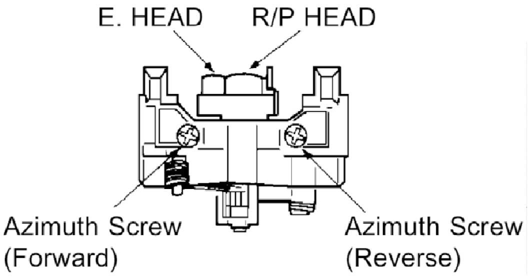


Fig. 3


E. HEAD
R/P HEAD
Azimuth Screw
(Forward)
Azimuth Screw
(Reverse)

9.1.2. Tape Speed Adjustment

Normal speed (Standard value : 3000 ± 90Hz)

1. **Connect the measuring instrument as shown in Fig. 4.**
2. **Playback the middle portion of the test tape (QZZCWAT).**
3. **Adjust motor VR for the output value shown below. (Refer to Fig. 5)**
   [Adjustment target : 3000 ± 40Hz]

Fig. 4

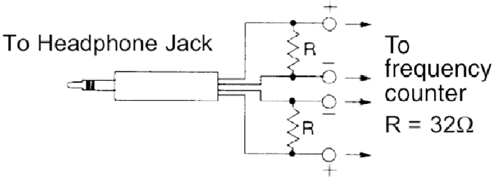
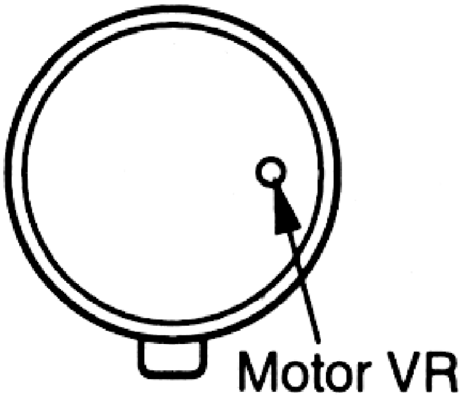

To Headphone Jack
R
R
+
−
−
+
To frequency counter
R = 32Ω

Fig. 5

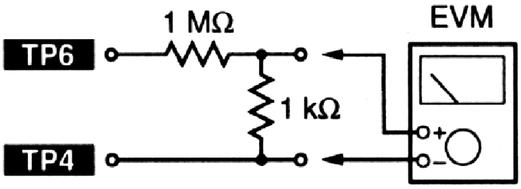


9.1.3. Bias Vlotage Check

1. **Connect the measuring instrument as shown in Fig. 6.**
2. **Set the unit to “AUX” position.**
3. **Insert the normal blank tape (QZZCRA) and set the unit to “REC” mode (use “ ● REC/STOP” key).**
4. **Measure and make sure that the output is within the standad value.**

[Standard value : 16 ± 3mV]

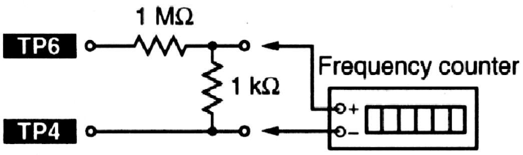
Fig. 6



9.1.4. Bias Frequency Check

1. Connect the measuring instrument as shown in Fig. 7.
2. Set the unit to “AUX” position.
3. Insert the normal blank tape (QZZCRA) and set the unit to “REC” mode (use “ ● REC/STOP” key).
4. Measure and make sure that the output is within the standard value.
   [Standard value : 98 ± 8kHz]

Fig. 7



9.2. Tuner Section

9.2.1. AM-IF Alignment

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 3)	RE
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	450kHz 30% Mod. at 400Hz	Point of non-interference. (on about 600kHz)	Headphones Jack (32 Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	Z102 (AM IFT)	Ad maxin

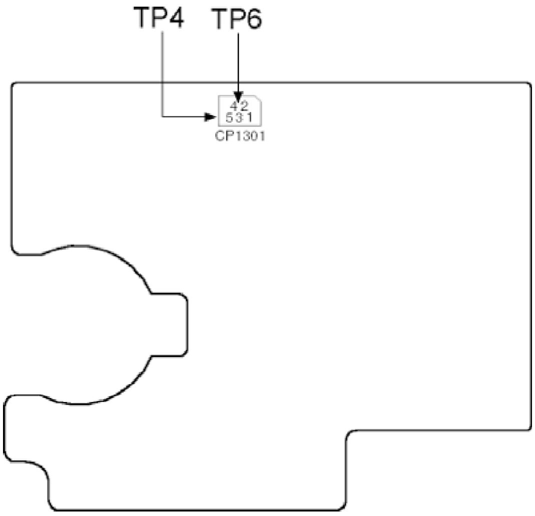
9.2.2. AM-RF Alignment

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 3)	RE
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	522kHz	Tuning capacitor fully closed	Headphones Jack (32 Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	Z101 (AM OSC Coil)	Ad maxin
	603kHz	Tuning to signal		Z101 (AM ANT Coil)	

9.3. Alignment Points

<Cassette Deck>

Fig. 8



<Tuner>

Fig. 9

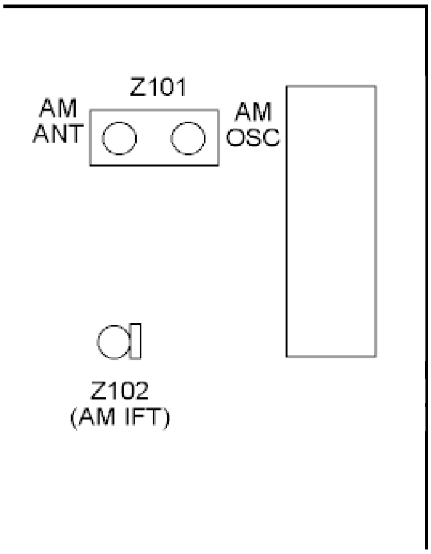
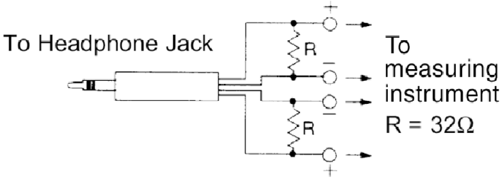


Fig. 10



9.4. Laser Power Adjustment

djust each laser power : read power for reading (play) and write power for writing (record).

9.4.1. Necessary Instruments

- **Laser power meter (Advantest TQ8210 or compatible meter)**
- **Test disc (Pre-mastered disc RFKV0006 or RFKV0014)**
- **Recordable disc available on sales root (with music recorded)**
- **Insulated driver for adjustment such as a ceramic driver**
- **Jitter meter**

9.4.2. Set the Unit to the Adjustment Mode

1. **Perform the item “8.1.6. Checking for the MD Servo P.C.B.” in “Operation Check and Main Component Replacement Procedures”, Step 1 to Step 4.**
2. **Turn the power on.**
3. **Press CD play button with no CD, cassette or MD loaded.**
4. **While pressing STOP button on the unit, press 4 and 7 on the remote control. The unit enters doctor mode for adjustment.**

Cautions

1. About handling the MD unit

- **The magnetic head is a precision unit and is very fragile. Do not deform it.**
- **Laser diode in the optical pickup may be destroyed by the staticelectricity generated in your clothes or body. Be especially careful with the static electricity.**
- **The optical pickup is structured extremely precisely. Do not subject to the strong impact or shock. Do not touch the lens.**

2. About handling the magnetic head

When replacing the magnetic head, do not tighten the mounting screw (RHD17022) too firmly. If the screw is tightened too much to deform the resin, the position of the head is moved, and this affects its recording operation.
Recommended torque for mounting screw: 700 g cm +/- 100 g cm
Reference: This is the same force as using a screwdriver with a 15-mm diameter grip, you fasten the screw naturally with your thumb and index finger.

3. About the driver for adjusting laser power

Use only insulated driver such as a ceramic driver. With the metal driver, it is not possible to adjust properly because of the induction noise. Also, if it short-circuits with the chassis, it may destroy or damage the laser diode.
Recommended driver: VESSEL 9000 1.8 -30 (Ceramic driver)

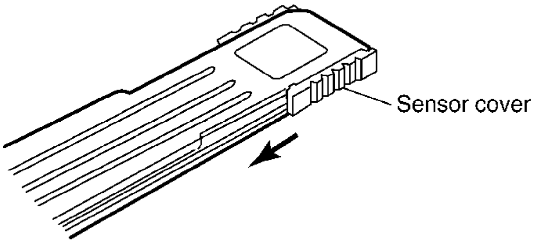
Cautions on optical pickup:

- **The optical pickup and the magnetic head are structured precisely; therefore, they are very fragile. Be careful not to touch them with the edge of the laser power meter.**
- **The sensor of the laser power meter is a very fine part. Be careful not to touch it to the optical pickup lens.**
- **The focus point of the laser reaches to 356°F. Therefore, avoid adjusting using laser power for a long time because the sensor of the laser power meter may be burned.**
- **Do not allow the write power to even momentarily reach or exceed 7.5 mW. Doing so will result in damage to the optical pickup.**
- **Do not set the unit to the laser power adjustment mode with the**

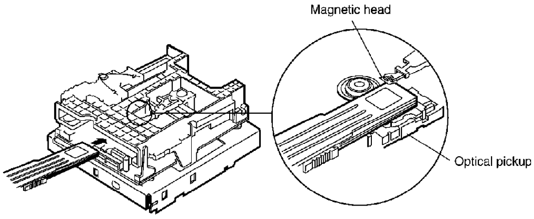
MD loaded. Doing so may result in damage to the MD.

9.4.3. Adjustment Procedure

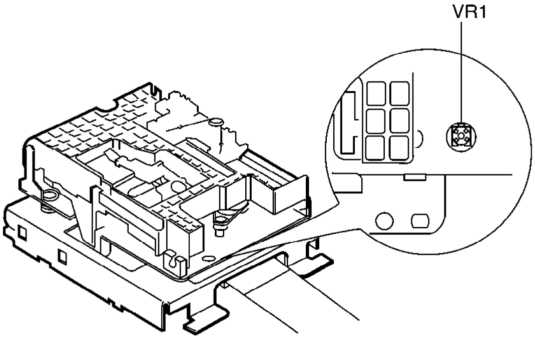
1. **Enter “1” using numeric pad on the remote control with no MD loaded.**
   →FL display “Rough ADJ”.
   (Read power adjustment mode)
2. **Slide sensor cover on the laser power meter. (Fig. 1)**



3. **Place the sensor on the laser power meter right on top of the optical pickup. (Fig. 2)**



4. **Confirm that the reading of the laser power meter is within the standard value. If the value is out of the range, adjust VR1. (Fig. 3)**
   [Standard value (read power) : 600~650 μW]



Cautions

Proceeding on to the subsequent adjustment procedure with the read power exceeding 650 μW will result in damage to the optical pickup.

5. **Press “MEMORY/ENTER” button on the unit.**
   →FL display “ROUGH ADJ.OK” flash for 3 times and display the

next indication.
→FL display “FINE ADJ”
(Write power adjustment mode)

6. Adjust VR1 until reading of the laser power meter is within the standard value. (Fig. 3)
[Standard value (write power) : 6.8mW ± 0.1mW]
Cautions
Do not allow the write power to reach or exceed 7.5mW, even for a moment. Doing so will result in damage to the optical pickup.

7. Press “MEMORY/ENTER” button on the unit.
→FL display “FINE ADJ.OK” flash for 3 times and display the next indication.
→FL display “ROM-D.CHECK”
(ROM data check mode)

8. Confirm that the reading of the laser power meter is within the standard value.
[Standard value (ROM data laser power) : 320~380 μW]

9. Press “MEMORY/ENTER” button on the unit.
→FL display “RAM-D.CHECK”
(RAM data check mode)

10. Confirm that the reading of the laser power meter is within the standard value.
[Standard value (RAM data laser power) : 620~740 μW]

11. Press “EJECT” to cancel adjustment mode, then press “POWER” button to turn off the power.

Note : If the value in step 8 and step 10 is out of standard value, turn off the power and readjust from the beginning.

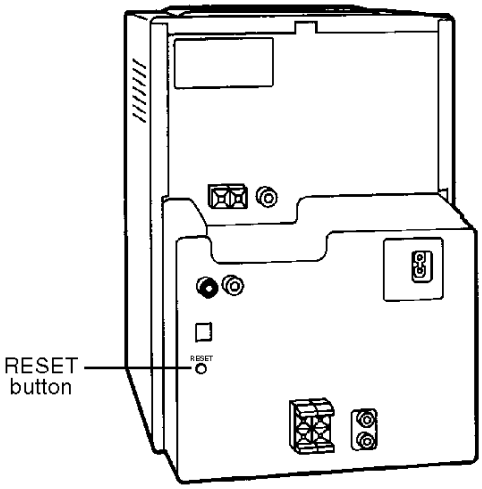
Caution

Upon completion of adjustment, make sure to perform reset operation.
[Operation Procedures]

1. Pull out the power plug.

2. Press [Reset] button on the rear side of the unit with a sharp object for more than 5 seconds.

The unit returns to the state same as shipping from the factory. (Memories such as preset broadcasting station will be lost.)



10. Illustration of IC’s, Transistors and Diodes

11. Terminal Function of IC's

11.1. IC1 (AN8772FHQ) : RF AMP

Pin No.	Mark	I/O	Function
1	CENVD	—	D signal det. capacitor connection terminal
2	LDO	O	Laser amp output terminal
3	APCPD	I	Photo diode light quantity det. input terminal
4	LD IN	I	Laser amp reverse input terminal
5	APC REF	I	APC amp criterion voltage input terminal
6	TEMP IN	I	Temperature sensor amp input terminal
7	TEMP	O	Temperature sensor amp output terminal
8	ADIP	O	ADIP signal output terminal
9	TOFS	I	Tracking error offset adjustment terminal
10	TBAL	I	Tracking ballance adjustment terminal
11	TE	O	Tracking error signal output terminal
12	CRS IN	I	Track cross input terminal

Pin No.	Mark	I/O	Function
13	TGAIN	I	Tracking gain adjustment input terminal
14	LNP	O	Lens position signal output terminal
15	AB GAIN	I	APP compensation signal gain adjustment terminal
16	FE	O	Focus error signal output terminal
17	AS GAIN	I	AS gain adjustment terminal
18	FBAL	I	Focus ballance adjustment terminal
19	AS/ MON3T	O	AS/3TMON signal output terminal
20	CEA	I	3T envelope det. capacitor connection terminal
21	BDO/ TRCRS	O	BDO/Track cross signal output terminal
22	CBD O	O	BDO detection capacitor connection terminal
23	OFT O	O	Off track detection signal output terminal
24	GND	—	GND terminal
25	OFT IN	I	Off track detection signal input terminal
26	VCC	I	Power supply terminal (+ 3V)
27	NRFDET/ OFTR	O	NRFDET/off track signal output terminal
28	NRFLD	I	Serial command latch signal input terminal
29	RF DATA	I	Serial command data signal input terminal
30	RFCK	I	Serial command clock input terminal
31	NRFSTBY	I	Standby control signal input terminal
32	OUT RF	O	EFM signal output terminal
33	CRF AGC	—	RFAGC capacitor connection terminal
34	EQ IN	I	EQ input terminal
35	ARFO	O	RF amp. output terminal
36	SVREF	I	Reference voltage input terminal

Pin No.	Mark	I/O	Function
37	VREF	O	Reference voltage output terminal
38	RF1	I	RF1 signal input terminal
39	RF2	I	RF2 signal input terminal
40	F1	I	F1 signal input terminal
41	F2	I	F2 signal input terminal
42	CLPF1	—	APP compensation LPF capacitor connection terminal
43	CLPF2	—	RF equalizer adjustment resistor connection terminal
44 ~47	A ~D	I	Beam A~D signal input terminal
48	CENVC	—	Beam E signal detection capacitor connection terminal

11.2. IC2 (AN8814SB-E1) : FOCUS/TRACKING COIL, SPINDLE/ TRAVERSE MOTOR DRIVE

Pin No.	Mark	I/O	Function
1	REG B	—	3.3V external transistor control terminal (Not used, open)
2	REG M	—	3.3V regular output monitor terminal (Not used, connected to GND)
3	N.C.	—	Not used, open
4	OPO	O	Op-amp output terminal
5	OP-	O	Op-amp invert output terminal
6	OP+	O	Op-amp non-invert output terminal (Not used, connected to GND)
7	Vcc	I	Power supply terminal
8	1/2 PVcc2	O	1/2 PVcc output terminal 1 (Connected to GND through capacitor)
9	PVcc2	I	Power supply terminal for driver
10	PGND2	—	GND terminal
11	VO4-	O	Tracking coil driver output terminal

Pin No.	Mark	I/O	Function
12	VO4+	O	Tracking coil driver output terminal
13	VO3-	O	Focus coil driver output terminal
14	VO3+	O	Focus coil driver output terminal
15	VO2-	O	Traverse motor drive output terminal
16	VO2+	O	Traverse motor drive output terminal
17	VO1-	O	Spindle motor drive output terminal
18	VO1+	O	Spindle motor drive output terminal
19	PGND1	—	GND terminal
20	PVcc1	I	Power supply terminal
21	1/2 PVcc1	O	1/2 PVcc output terminal 1 (Connected to GND through capacitor)
22	VREF	I	Reference voltage input
23	IN1	I	Spindle motor drive input terminal
24	PC1	I	Power cut 1 input terminal
25	IN2	I	Traverse motor drive input terminal
26	PC2	I	Power cut 2 input terminal
27	IN3	I	Focus drive input terminal
28	IN4	I	Tracking drive input terminal

11.3. IC3 (MN66616RA4) : ATRAC ENCORDER/DECORDER, SERVO SIGNAL PROCESSOR

Pin No.	Mark	I/O	Function
1	ADIP	I	ADIP FM signal input terminal
2	LNP	I	Lens position signal input terminal
3	FE	I	Focus error signal input terminal
4	TE	I	Tracking error signal input terminal
5	AS	I	AS signal input terminal
6	DRMONI	I	Drive voltage monitor input terminal
7	BAT	I	Battery power supply terminal
8	AMONI	—	Servo analog monitor signal output (Not used, poen)
9	VREFI	I	Reference voltage input terminal
10	TOFS	O	Tracking off-set adjustment output terminal
11	FBAL	O	Focus balance adjustment output terminal
12	TBAL	O	Tracking balance adjustment output terminal
13	TGAIN	O	TE error gain adjustment output terminal
14	ASGAIN	O	Main beam amp gain adjustment output terminal
15	ABGAIN	O	APP adjustment output terminal
16	AVDD1	I	Power supply terminal
17	AVSS1	—	GND terminal
18	FOD	O	Focus drive signal output terminal
19	TRD	O	Tracking drive signal output terminal
20	TVD	O	Traverse motor drive signal output terminal
21	SPD	O	Spindle motor drive signal output terminal
22	SPON	O	Drive IC spindle ON signal output terminal
23	TVON	O	Drive IC traverse ON signal output terminal
24	DVDD0	I	Power supply terminal
25	FG	I	FG input terminal

Pin No.	Mark	I/O	Function
26	NRECT	O	Rec/Play switching signal output terminal
27	IVDD2	—	Power supply terminal for I/O pad
28	IVDD0	—	Power supply terminal for I/O pad
29	DVss0	—	GND terminal
30 ~32	RAD12 ~RAD10	—	DRAM address output terminal (Not used, open)
33 ~42	RAD9 ~RAD0	O	DRAM address output terminal
43 ~46	RDT3 ~RDT0	I/O	DRAM data input/output terminal
47	NRAS	O	DRAM row address strobe output terminal
48	NCAS	O	DRAM culum address strobe output terminal
49	NWE	O	DRAM write enable output terminal
50	NRST	I	Reset signal input terminal
51	SELAD	I	MSP/MDA,I/F address select input terminal (“H” Address)
52	SSCK	I	MSP/MDA,I/F clock input terminal
53	SSDW	I	MSP/MDA,I/F write data input terminal
54	SSDR	O	MSP/MDA,I/F read data output terminal
55	MDISY	O	Leader synchronous signal output
56	SCTSY	O	ADIP synchronous noise output terminal
57	SGSYNC	O	Frame synchronous signal output terminal
58	DVDD1	I	Power supply terminal
59	IVDD1	—	Power supply terminal for I/O pad
60	DVss1	—	GND terminal
61	FS384	O	384 Fs output terminal
62	SCL	O	Bit clock output terminal
63	SWS	O	Word clock output terminal
64	SDAP	O	Audio data output terminal
65	SDAR	I	Audio data input terminal
66	LRCK	I	CD word clock input terminal (Connected to GND)

Pin No.	Mark	I/O	Function
67	BCK	I	CD bit clock input terminal (Connected to GND)
68	DATA	I	CD data input terminal (Connected to GND)
69	TX	O	Digital audio interface signal output terminal (Not used, open)
70	RX1	I	Digital audio interface signal 1 input terminal
71	RX2	I	Digital audio interface signal 2 input terminal
72	NREFM	—	EFM modulation inverted output (Not used, open)
73	REFM	O	EFM modulation output terminal
74	MONI3	—	Monitor signal output (Not used, open)
75	MONI2	—	Monitor signal output (Not used, open)
76	MONI1	—	Monitor signal output (Not used, open)
77	MONI0	—	Monitor signal output (Not used, open)
78	TS3	—	Not used, connected to GND
79	TS2	—	Not used, connected to GND
80	TS1	—	Not used, connected to GND
81	TS0	—	Not used, connected to GND
82	EXSYSCK	—	External system clock input terminal (Not used, connected to GND)
83	DVDD2	I	Power supply terminal
84	XI	I	Crystal oscillator input terminal (F=16.9344MHz)
85	XO	O	Crystal oscillator output terminal (F=16.9344MHz)
86	VDss2	—	GND terminal
87	RFDAT	O	RF serial data output terminal
88	RFCK	O	RF serial clock output terminal
89	NRFLD	O	RF serial load output terminal
90	TRCRS	I	Track cross input terminal
91	OFTR	I	Off-track signal input terminal

Pin No.	Mark	I/O	Function
92	APCD	O	Laser power PWM output terminal
93	EXEFMCK	I	External FM clock input terminal (Not used, connected to GND through registor)
94	PEFM1	O	EFM loop filter output terminal
95	EEMIREF	I	EFM PLL reference current input terminal
96	EEMPLLF	O	EFM PLL filter output terminal
97	PEFMS	I	EFM signal input terminal
98	AVDD0	I	Power supply terminal
99	AVss0	—	GND terminal
100	TEFSEL	—	Not used, open

11.4. IC10 (MN101D03DAA1) : SYSTEM CONTROL

Pin No.	Mark	I/O	Function
1	DACRST	O	DAC reset signal output terminal to IC4 (“L”:Reset)
2	DEO	O	DE emphasis signal output terminal to IC4(“L”:DE emphases)
3	MUTE	—	AD-DA mute output terminal (Not used, open)
4	AD RST	O	Reset signal output terminal
5	NRFSTBY	O	Standby control signal output terminal (“L”: Standby)
6	PC	O	Transistor drive signal output terminal (“H”:Power ON)
7	MSP RST	O	MSP reset signal output terminal (“L”:Reset)
8	LOAD1	O	Loading motor drive 1 output terminal
9	LOAD0	O	Loading motor drive 0 output terminal
10	NEFMON	O	Magnetic head current output terminal
11	TEST01	O	Test signal output terminal (Not used, open)

Pin No.	Mark	I/O	Function
12	TVSW	I	Traverse innermost detection switch signal input terminal
13	DISC IN	I	Disc detection switch signal input terminal
14	REFLECT	I	Reflection rate switch signal input terminal
15	LOAD SW0 (OPEN)	I	Loading mechanism position det. Switch 0 signal input terminal
16	LOAD SW1 (TRG)	I	Loading mechanism position det. Switch 1 signal input terminal
17	LOAD SW2 (PLAY/ REC)	I	Loading mechanism position det. Switch 2 signal input terminal.
18	LOAD SW3 (PLAY)	I	Loading mechanism position det. Switch 3 signal input terminal
19	PROTECT	I	Erase prevention switch signal input terminal
20	MMOD	—	Connected to GND
21	RST	I	Reset signal input terminal (“L”:Reset)
22	UNIT TEST	I	Test signal input terminal (Open)
23	CS2	I	Test signal input terminal (Open)
24	SCTSY	I	Micro computer interrupt signal input terminal (SUBQ/ ADIP simultaneous signal)
25	MDISY	I	Micro computer interrupt signal input terminal (MD simultaneous signal)
26	PANEL REQ	I	Panel I/F request signal input terminal
27 ~29	LED OUT1 ~LED OUT3	O	Drive signal output terminal to LED DRIVE (“H”:LED ON)
30	TEST02	O	Test signal output terminal (Not used, open)
31	V_{DD}2(3V)	I	Power supply terminal (+3V)
32	OSC1	I	Crystal oscillator input terminal (f=10.02MHz)

Pin No.	Mark	I/O	Function
33	OSC2	O	Crystal oscillator output terminal (f=10.02MHz)
34	Vss	—	GND terminal
35	XI	I	Not used, connected to GND
36	XO	O	Not used, open
37	VSS	—	GND terminal
38	TEST03	O	Test signal output terminal (Not used, open)
39	EEPCS	O	EEPROM chip select signal output terminal (Not used, open)
40	EEPCK	O	EEPROM clock signal output terminal (Not used, open)
41	EEPDATA	I/O	EEPROM data in/output terminal (Connected to GND through resistor)
42	TEST04	O	Test signal output terminal (Not used, open)
43	TEST05		
44	CFSYNC	I	ATRACK management frame simultaneous signal input terminal
45	TEST06	O	Test signal output terminal (Not used, open)
46	TEST07	I	Connected to rec/play switch signal
47	TOK OK	O	Not used, open
48	HF ON	—	Drive signal output terminal to Q3 (POWER SUPPLY CONTROL)
49	PANEL CLK	I	Panel I/F clock input terminal
50	PANEL DATA I	I	Panel I/F data input terminal
51	PANEL DATA O	O	Panel I/F data output terminal
52	PANEL CS	O	Panel I/F chip select output terminal
53	SELAD	O	Micro computer I/F address select output terminal
54	SSCLK	O	Micro computer I/F clock output terminal
55	SSDR	I	Micro computer I/F reading data input terminal
56	SSDW	O	Micro computer I/F writing data output terminal

Pin No.	Mark	I/O	Function
			data output terminal
57	LCDCK	O	LCD clock test signal output terminal (Connected to power supply through resistor)
58	ADRS TEST RXD	O	Test signal output terminal (Connected to power supply through resistor)
59	LCD DATA TXD	O	Test signal output terminal (Not used, open)
60	VREF-	—	Connected to GND
61	TEMP	I	Temprature sensor amp input terminal
62	KEY1	I	Key input 1 terminal
63	KEY2	I	Key input 2 terminal
64	MO LOAD	I	Test signal input terminal (“L”:Without loading mechanism) (Open)
65	SRVTEST	I	Test signal input terminal (“L”:Servo test mode) (Open)
66	LOAD P	I	Test signal input terminal (Open)
67	TEST KEY IN	I	Test signal input terminal (“L”:Unit key mode) (Open)
68	SRV LOAD	I	Test signal input terminal (“L”:Using for servo primary values EEPROM)
69	VCC 3V	I	Power supply terminal (+3V)
70	VCC 5V	I	Power supply terminal (+5V)
71	SELADDA	I	AD/DA converter select signal input terminal (Open)
72	SLOCK	O	Spindle lock test signal output terminal (Not used, open)
73	TLOCK	O	Tracking lock signal output terminal (“H”:lock) (Not used, open)
74	FLOCK	O	Focus lock test signal output terminal (“H”:lock) (Not used, open)
75	ERROR	O	Servo error test signal output terminal (Not used, open)

Pin No.	Mark	I/O	Function
76	BUSY	O	Servo busy test signal output terminal (Not used, open)
77	SBPRETRY	O	Signal management retry test signal output terminal (Not used, open)
78	SRVRETRY	O	Servo retry test signal output terminal (Not used, open)
79	ARDSKIP	O	Address skip test signal output terminal (Not used, open)
80	SPMWE	O	SPM take in test signal output terminal

11.5. IC72 (M51V4400D7FS) : 4M DRAM

Pin No.	Mark	I/O	Function
1	DO1	I/O	DRAM data 1 in/output terminal
2	DO2	I/O	DRAM data 2 in/output terminal
3	WE	I	DRAM light enable input terminal
4	RAS	I	DRAM low address strobe input terminal
5	A9	I	DRAM address 9 input terminal
9	A0	I	DRAM address 0 input terminal
10 ~12	A1 ~A3	I	DRAM address 1~3 input terminal
13	VCC	I	Power supply terminal
14 ~18	A4 ~A8	I	DRAM address 4~8 input terminal
22	OE	I	DRAM output enable input terminal (Not used, connected to GND)
23	CAS	I	DRAM calam address strobe input terminal
24	DO3	I/O	DRAM data 3 in/output terminal
25	DO4	I/O	DRAM data 4 in/output terminal

Pin No.	Mark	I/O	Function
26	VSS	—	GND terminal

11.6. IC701 (AN8839NSBE2) SERVO AMPLIFIER

Pin No.	Mark	I/O	Function
1	PDE	I	Tracking signal input terminal 1 (E ch)
2	PDF	I	Tracking signal input termianl 2 (F ch)
3	VCC	I	Power supply connection
4	PDA	I	Focus signal input termianl 1 (A ch)
5	PDB	I	Focus signal input terminal 2 (B ch)
6	LPD	I	Laser PD connection
7	LD	O	Laser power auto control output
8	RF	O	RF signal output
9	RFIN	I	RF signal input
10	CSBRT	I	Capacitor for detection connection
11	CEA	I	Capacitor connection for HPF amplifier
12	BDO	O	BDO output (“H” : drop out)
13	LDON	I	LD APC input (“H” : ON, “L” : OFF)
14	GND	—	Ground connection
15	/RFDET	O	NRFDET output (“L” : detection)
16	PDOWN	O	CROSS output (Track cross signal output
17	OFTR	O	Off-track output (“L” : ON track, “H” : OFF track)
18	N.C.	O	VDET output (“H” : Vibration detected)
19	ENV	O	RF envelope detection
20	N.C.	I	Not used, connected to power supply
21	N.C.	I	Cscillation detect signal input
22	TEN	I	Tracking error signal input
23	TEOUT	O	Tracking error signal output
24	FEOUT	O	Focus error signal output
25	FEN	I	Focus error signal input

Pin No.	Mark	I/O	Function
26	VREF	O	Reference voltage output
27	TBAL	I	Tracking balance signal input
28	FBAL	I	Focus balance signal input

11.7. IC702 (MN662790RSC) SERVO PROCESSOR / DIGITAL SIGNAL PROCESSOR / DIGITAL FILTER / D/A CONVERTER

Pin No.	Mark	I/O	Function
1	BCLK	O	Bit Clock Output for Serial Data
2	LRCK	O	L/P Clock Signal Output
3	SRDATA	O	Serial Data Output
4	DVDD1	I	Power Supply Input (for Digital Circuit)
5	DVSS1	I	Ground (for Digital Circuit)
6	TX	O	Digital Audio Interface Signal Output (Latches Data at first Transistion)
7	MCLK	I	Microprocessor Command Clock Signal Input
8	MDATA	I	Microprocessor Command Data Signal Input
9	MLD	I	Microprocessor Command Load Signal Input
10	SENSE	I	Sense Signal Output (OFT, FESL, MAGEND, NAJEND, POSAD, SFG) (Not Used, Open)
11	/FLOCK	O	Focus Servo Feeding Signal Output (“L”: Feed)
12	/TLOCK	O	Tracking Servo Feeding Signal Output (“L”:Feed)
13	BLKCK	O	Sub-Code Block Clocl Signal Output (fBLKCK = 75Hz during Normal Playback)

Pin No.	Mark	I/O	Function
14	SQCK	I	External Clock Signal Input for Sub-Code Q Resistor)
15	SUBQ	O	Sub-Code Q Code Output
16	DMUTE	I	Muting Input (“H”: Mute)
17	STAT	O	Status Signal Output (CRC, CUE, CLVS, TTSTVP, FCLV, SQCK)
18	/RST	I	Reset Signal Input
19	SMCK	O	1/2 - Divided Clock Signal of Crystal Oscillating at MSEL= “H” (fSMCK=8.4672 MHz) 1/4 - Divided Clock Signal of Crystal Oscillating at MSEL= “L” (fSMCK=4.2336 MHz)
20	CSEL	I	Frequency Selection Terminal H= 33.8688 MHz; L= 16.9344 MHz
21	TRV	O	Traverse Forced Feed Output
22	TVD	O	Traverse Drive Output
23	PC	O	Traverse (Spindle) Motor ON Signal Output (“L”:ON)
24	ECM	O	Spindle Motor Drive Signal Output (Forced Mode Output)
25	ECS	O	Spindle Motor Drive Signal Output. (Servo Error Signal Output)
26	KICK	O	Kick Pulse Output
27	TRD	O	Tracking Drive Output
28	FOD	O	Focus Drive Output
29	VREF	I	D/A (Drive) Output (TVD, ECS, TRD, FOD, FBAL, TBAL) Reference Voltage Input
30	FBAL	O	Focus Error Signal Input (Analog Input)
31	TBAL	O	Tracking Balance Adjustment Output

Pin No.	Mark	I/O	Function
32	FE	I	Focus Error Signal Input (Analog Input)
33	TE	I	Tracking Error Signal Input (Analog Input)
34	RFENV	I	RF Envelope Signal Input
35	VDET	I	Vibration Detection Signal Input (“H”: Detect)
36	OFT	I	Off-Track Signal Input (“H”: Off Track)
37	TRCRS	I	Track Cross Signal Input)
38	/RFDET	I	RF Detection Signal Input (“L”: Detect)
39	BDO	I	Dropout Signal Input (“H”: Dropout)
40	LDON	O	Laser on Signal Output (“H”: ON)
41	PLLF2	I/O	PLL Loop Filter Characteristic Switching Terminal
42	TOFS/ DSLF2	O	Tracking Offset Alignment Output/ DSL Balance Output (DA Output)
43	WVEL	O	Double Speed Status Signal Output (“H”:DS)
44	ARF	I	RF Signal Input
45	IREF	I	Reference Current Input
46	DRF	I	DSL Bias Terminal
47	DSLF	I/O	DSL Loop Filter
48	PLLF	I/O	PLL Loop Filter
49	VCOF	I/O	VCO Loop Filter Terminal
50	AVDD2	I	Power Supply Input (For Analog Circuit)
51	AVSS2	I	GND (For Analog Circuit)
52	EFM	O	EFM Signal Output (Not Used, Open)

Pin No.	Mark	I/O	Function
53	PCK	O	PLL Extraction Clock Output (Not Used, Open) (fPCK= 4.3218 MHz during Normal Playback)
54	VCOF2	I/O	VCO loop Filter for 33.8688 MHz Conversion Terminal for 16.9344 Mhz Crystal mode, Must use other Circuit)
55	SUBC	O	Sub-Code Serial Data Output (Not Used, Open)
56	SBCK	I	Clock Input for Sub-Code Serial Data)
57	VSS	I	GND
58	X1 IN	I	Crystal Oscillating Circuit Input (f= 16.9344 MHz)
59	X2 OUT	O	Crystal Oscillating Circuit Input (f= 16.9344 MHz)
60	VDD	I	Power Supply Input (For Oscillating Circuit)
61	BYTCK	O	Byte Clock Output (Not Used, Open)
62	/CLDCK	O	Sub-Code Frame Clock Signal Output (fCLDCK= 7.35 kHz During Normal Playback)
63	FCLK	O	Crystal Frame Clock Signal Output) (fCLDCK= 7.35 kHz)
64	IPFLAG	O	Interpolation Flag Output (“H”: Interpolation) (Not Used, Open)
65	FLAG	O	Flag Output (Not Ised, Open)

Pin No.	Mark	I/O	Function
66	CLVS	O	Spindle Servo Phase Synchronizing Signal Output (“H”: CLV, “L”: Rough Servo) (Not used, Open)
67	CRC	O	Sub-Code CRC Checked Output (“H”: OK, “L” NG) (Not Used, Open)
68	DEMPH	O	De-Emphasis DN Signal Output (“H”:ON)
69	RESY	O	Frame Re-synchronizing Signal Output
70	IOSEL	I	Mode Switching Terminal
71	/TEST	I	Test Input
72	AVDD1	I	Power Supply Input (For Analog Circuit)
73	OUTL	O	Left Channel Audio Signal Output
74	AVSS1	I	GND
75	OUTR	O	Right Signal Audio Signal Output
76	RSEL	I	RF Signal Polarity Assignment Input (at “H” level, RSEL= “H”, at “L” SEL= “L”)
77	IOVDD	I	5V Supply
78	PSEL	I	Test terminal (Connected to GND)
79	MSEL	I	SMCK Oscillating Frequency Designation Input (“L”: 4.2336 MHz, “H” 8.4672MHz)
80	SSEL	I	SUBQ Output Mode Select (“H”: Q-Code Buffer Mode)

11.8. IC703 (BA5948FPE2) FOCUS COIL / TRACKING COIL / TRAVERSE MOTOR / SPINDLE MOTOR DRIVE

Pin No.	Mark	I/O	Function
1	IN2	I	Motor Driver 92) Input
2	PC2	I	Turntable Motor Drive Signal (“L”:ON)
3	IN1	I	Motor Driver (1) Input
4	PC1	—	Traverse Motor Drive Signal (“L”:ON)
5	N.C.	—	No connection
6	N.C.	—	No connection
7	N.C.	—	No connection
8	N.C.	—	No connection
9	PGND1	—	Ground Conenction (1) for Driver
10	PVCC1	I	Power Supply (1) for Driver
11	D1-	O	Motor Driver (1) reverse - action output
12	D1+	O	Motor Driver (1) forward - action output
13	D2-	O	Motor Driver (2) reverse - action output
14	D2+	O	Motor Driver (1) forward - action output
15	D3-	O	Motor Driver (3) reverse - action output
16	D3-	O	Motor Driver (3) forward - action output
17	D4-	O	Motor Driver (4) reverse - action output
18	D4+	O	Motor Driver (4) forward - action output
19	PVCC2	I	Power Supply (2) for Driver
20	PGND2	—	Ground Connection(2) for Driver
21	N.C.	NC	No Connection
22	N.C.	NC	No Connection
23	N.C.	NC	No Connection
24	N.C.	NC	No Connection
25	VCC	I	Power Supply Terminal
26	VREF	I	Reference Voltage Input
27	IN4	I	Motor Driver (4) Input
28	IN3	I	Motor Driver (3) Input

11.9. IC801 (M30622MC4A3F) SYSTEM MICROPROCESSOR

Pin No.	Mark	I/O	Function
1	CD_MLD	O	CD command load output
2	CD_RST	O	CD reset output
3	CD_MCLK	O	CD command clock output
4	CD_MDATA	O	CD command data output
5	CD_RESTSW	I	CD limit detect sw input
6	MBP1	O	Control output (H=ON)
7	MBP2	O	Control output (H=ON)
8	BYTE	—	VSS (GND)
9	CNVss	AD I	VSS (GND)
10	OSC IN	I	Sub clock input (32.768 kHz)
11	OSC OUT	O	Sub clock input (32.768 kHz)
12	/RESET	I	System reset input
13	XOUT	O	Main clock output (8.0 MHZ)
14	Vss	—	GND (0V)
15	XIN	I	Main clock input (8.0 MHZ)
16	VCC	—	Power supply (5V)
17	NMI	I	Connect to VCC, external interrupt I/P
18	HALT	I	AC failure detect input
19	CD_BLKCL	I	Block clock input
20	RMT	I	Remocon input
21	CD_STAT	I	CD status input
22	A-DATA	O	Audio IC (Rohm BD3861) control data output
23	A_CLK	O	Clock for audio IC (Rohm BD3861)
24	N.C.	O	no connection
25	RDS_RDCL	I	RDS clock input
26	RDS_RDDA	I	RDS data input
27	N.C.	O	No connection
28	MD_CLK	O	MD serial clock output
29	MD_DATA OUT	O	MD serial data output
30	MD_DATA IN	I	MD serial data input
31	N.C.	O	No connection

Pin No.	Mark	I/O	Function
32	SUBQ/SRDT	I	CD subcode clock input
33	SQCK/SCLK	O	CD subcode clock output
34	LOAD SW	I	MD load (TRG) SW (H:SW off)
35	MD_LINK OUT	O	MD portable link serial data output
36	MD_LINK IN	I	MD portable link serial data input
37	CR02 PB	O	CR02 tape play back (active H)
38	MD_REQ	O	MD request output
39	MD_SYS RST	O	MD system reset output (L:Reset)
40	MD_CS	I	MD chip select input
41	CRT	I/O	CR Timer
42	EE_DATA	O	E2prom data output (Normally ‘L’)
43	EE-CLK	O	E2prom clock output (Normally ‘L’)
44	EE_CS	O	E2prom CS (Normally ‘L’)
45	STEREO	I	Tuner stereo det input
46	SD	I	Tuner signal det input
47	DO	I	Tuner if count data input
48	MOTOR_H	O	Deck motor (active :H)
49	PL_H	O	Deck plunger (active :H)
50	PLLCLK	O	Tuner PLL clock output
51	PLLDAT	O	Tuner PLL data output
52	PLLCE	O	Tuner PLL chip enable
53	BP	O	Beat proof for AM
54	CR02	I	Chrome tape detecting switch
55	REC_H	O	Deck record control output (active: H)
56	DMT	O	Tape mute output (L: Mute on)
57	LCLOSE_H	O	CD close tray low speed (Active : H)
58	LOPEN_L	O	CD open tray low speed (Active : L)
59	CD_OPEN SW	I	CD open switch input
60	CLOSE_L	O	CD close tray normal (Active : L)

Pin No.	Mark	I/O	Function
61	OPEN_H	O	CD open tray normal (Active : H)
62	VCC	—	Power supply 5.0V
63	N.C.	O	No connection
64	Vss	—	GND (0V)
65	N.C.	O	No connection
66	TAPE_EJ	I	Tape eject key
67	N.C.	O	No connection
68	N.C.	O	No connection
69	LD_SPD	I	CD loading speed select
70	S/W_RESET	I	Micro_P RESET
71	LCD_RST	O	Rest output
72	LCD_CS	O	Chip select output
73	LCD_CLK	O	Clock output
74	LCD_DATA	O	Data output to the driver
75	EXP_DATA	O	Exp 1C control data out
76	EXP_CLK	O	Exp 1C control clock output
77	VOL_S1	I	Vol jog S1 input
78	VOL_S2	I	Vol jog S2 input
79	N.C.	O	No connection
80	N.C.	O	No connection
81	S.V.	O	Sound virtualiser
82	N.C.	O	No connection
83	Dimmer	O	Dim LCD backlight and turn off all LEDs
84	PCNT1	O	Power control output 1 (secondary side)
85	PCNT2	O	Power control output 2 (secondary side)
86	MUTE A	O	Muting output A
87	N.C.	O	No connection
88	HP_SW	I	Headphone jack SW
89	N.C.	O	No connection
90	AD1	A-D	Key input 1
91	AD2	A-D	Key input 2
92	MK_IN1	A-D	Tape mecha condition input 1 (Half/Rec_F/ REC_R/Mode)
93	MK_IN2	A-D	Tape mecha condition input 2 (Photo/TPS)
94	DC_DET	A-D	DC detect input
95	N.C.	O	No connection

Pin No.	Mark	I/O	Function
96	AVSS	—	Analog power supply input
97	SETUP TUNER BAND	AD	Setup tuner band
98	VREF	I	reference voltage input
99	AVCC	—	Analog power supply input
100	N.C.	O	No connection

12. Block Diagram

13. Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

S1

PROTECT detect switch

S2

REFLECT detect switch

S3

LOAD OPEN detect switch

S4

DISC IN detect switch

S5

LOAD PLAY / REC detect Switch

S6

LOAD PLAY detect Switch

S7

LOAD TRG detect switch

S8

Traverse detect switch

S701

Reset switch

S920

Power switch

S922
   Display / Character switch

S923
   Rec Mode switch

S924
   MD and Tape Rec switch

S925
   Tape Rec switch

S926
   MD Rec switch

S932
   CD Open / Close switch

S933
   MD Eject switch

S934
   Stop switch

S935
   FF switch

S936
   Rew switch

S937
   Selector switch

S938
   Sound EQ switch

S939
   CD switch

S940
   MD switch

S941
   Tape switch

S942
   Tuner switch

S950	**Tape Eject switch**
S971	**Mode detect switch**
S972	**Leaf switch**
S973	**Leaf switch**
S974	**Leaf switch**
S975	**Leaf switch**
S780	**CD Open switch**
VR1	**Laser power adjust VR**
VR901	**Volume control VR**

Signal line

━━━━━

: +B line

━ ━ ━

: -B line

➡

: FM/AM signal line

⇨

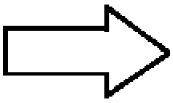
: Main signal line

➡

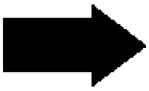
: Playback signal line

➡

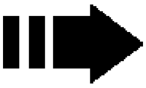
: Record signal line



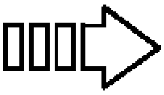
: FM signal line



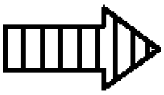
: AM signal line



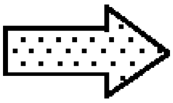
: AM OSC signal line



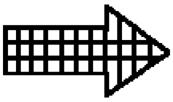
: FM OSC signal line



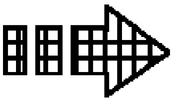
: AUX signal line



: CD signal line



: MD signal line



: MD record signal line

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

No mark
: Playback

<< >>
: Rec

(( ))
: CD

< >
: FM

( )
: AM

(for MD Servo Circuit)

( )
: MD play [1kHz, L+R, 0dB]

< >
: MD rec. [1kHz, L+R, 0dB]

{ }
: MD

- Importance safety notice :

Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

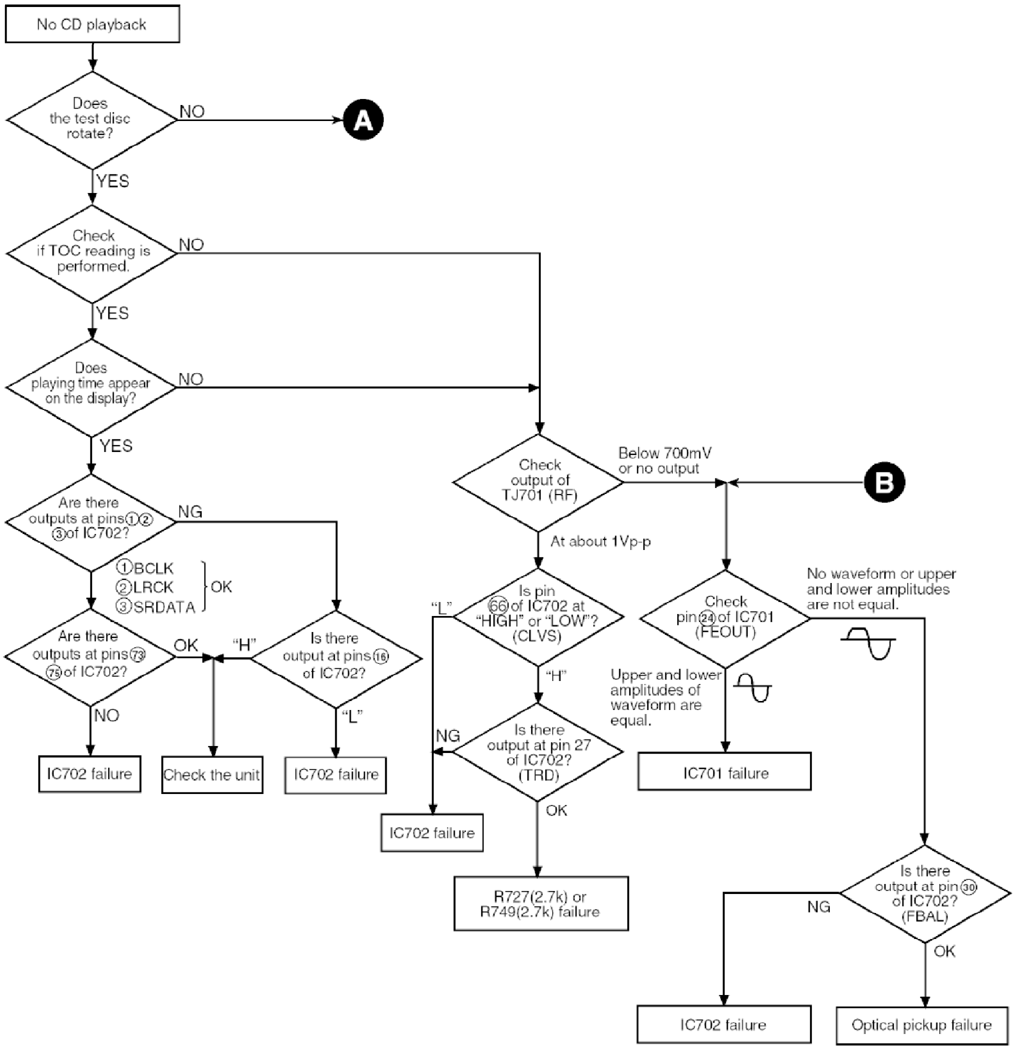
IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

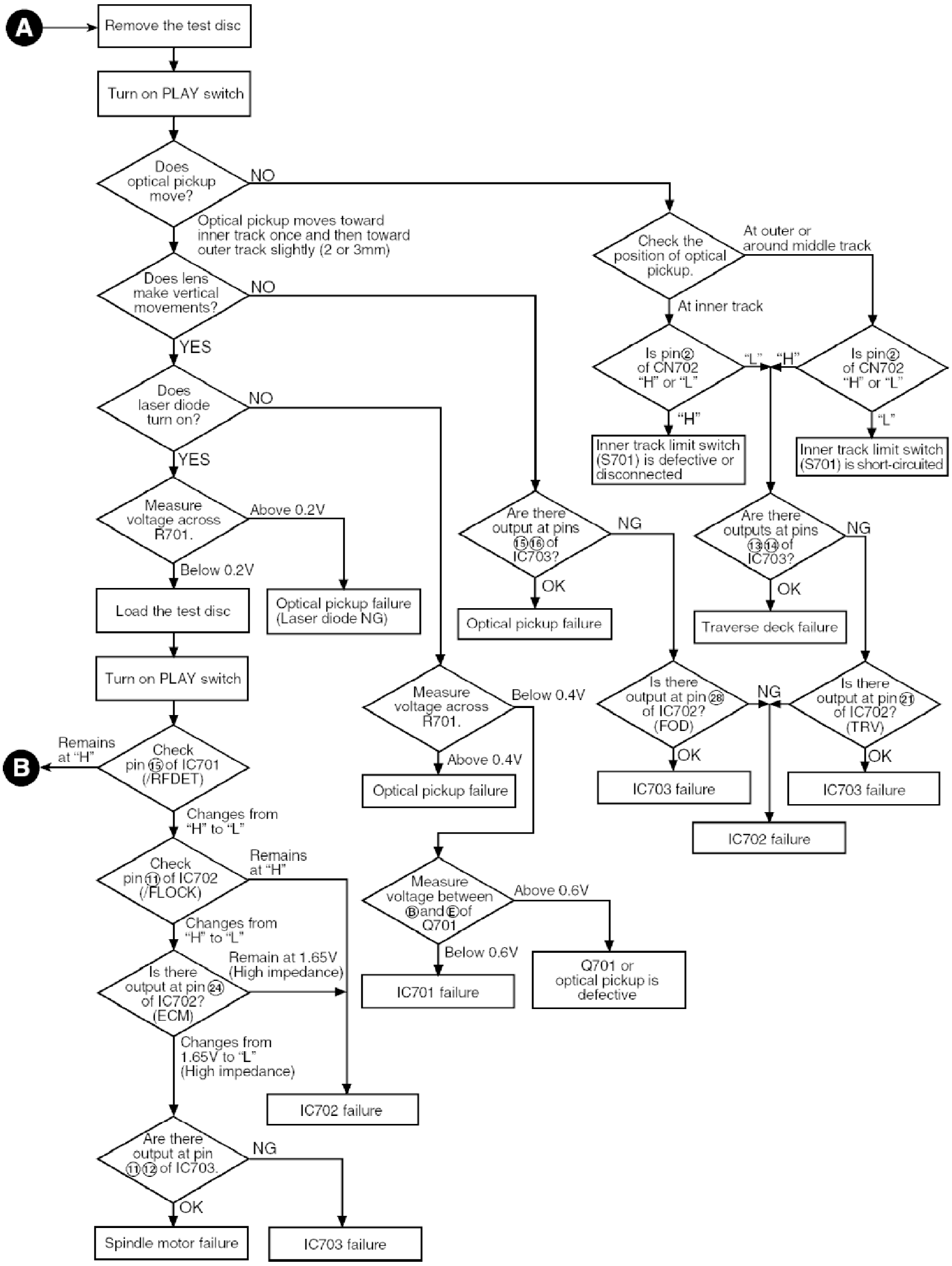
- Cover the parts boxes made of plastics with aluminium foil.
- Put a conductive mat on the work table.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.

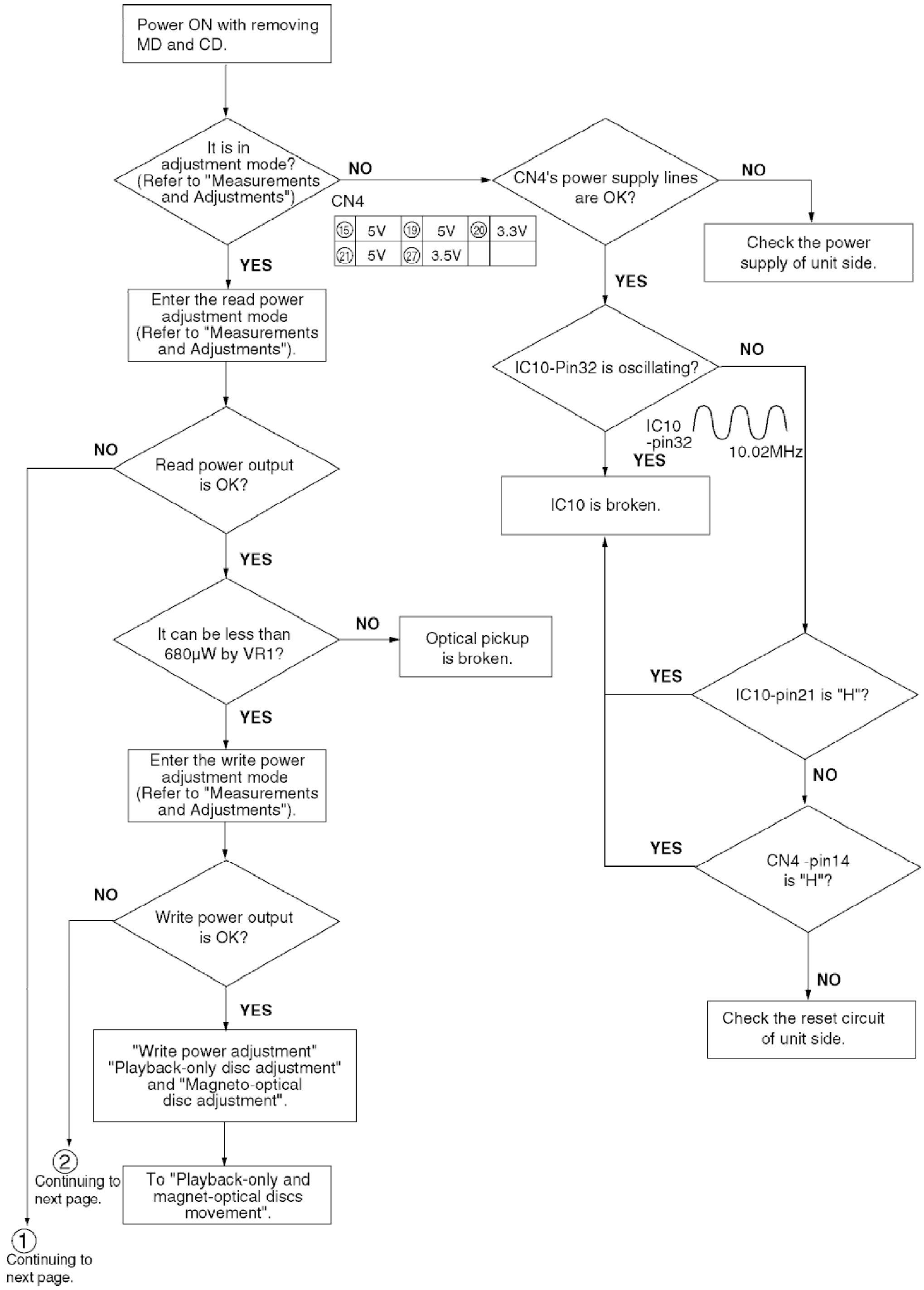
14. Printed Circuit Board

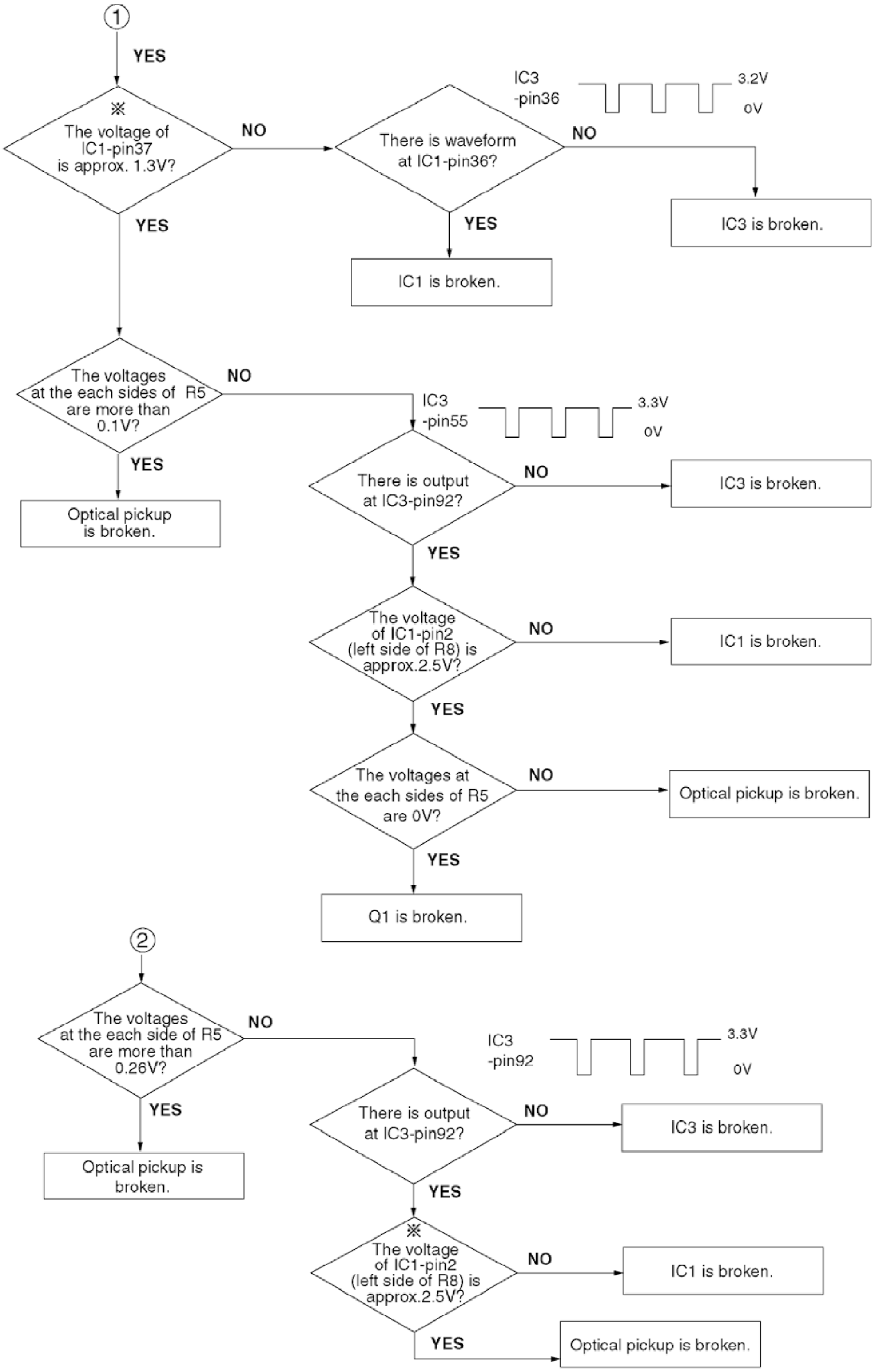
15. Wiring Connection Diagram

16. Troubleshooting Guide

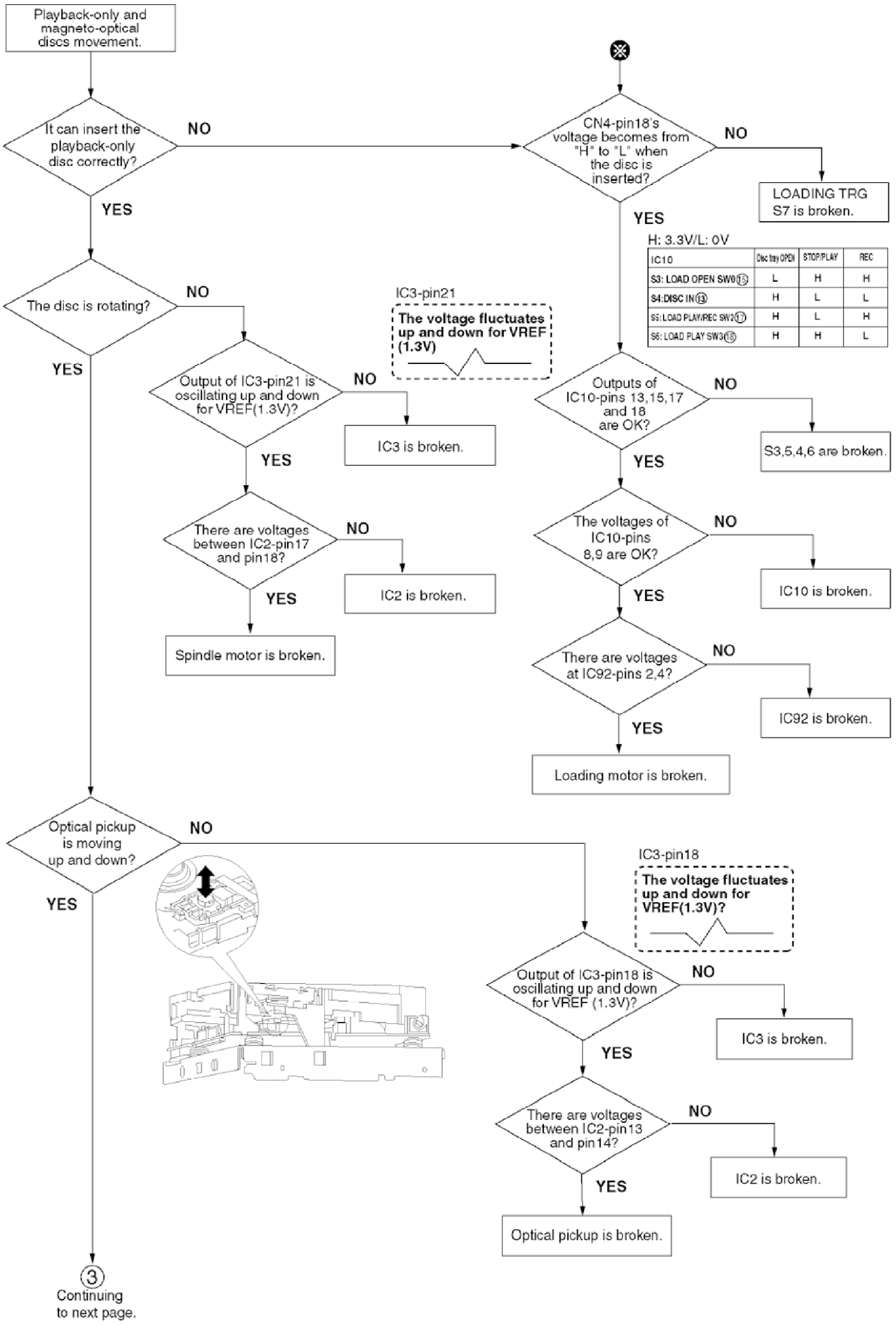

No CD playback
Does the test disc rotate?
NO
A
YES
Check if TOC reading is performed.
NO
YES
Does playing time appear on the display?
NO
YES
Are there outputs at pins①② ③of IC702?
NG
①BCLK
②LRCK
③SRDATA
OK
Are there outputs at pins⑬ ⑮of IC702?
OK
"H"
Is there output at pins⑯ of IC702?
NO
"L"
IC702 failure
Check the unit
IC702 failure
Check output of TJ701 (RF)
Below 700mV or no output
B
At about 1Vp-p
"L"
Is pin ㊻of IC702 at "HIGH" or "LOW"? (CLVS)
"H"
NG
Is there output at pin 27 of IC702? (TRD)
OK
IC702 failure
R727(2.7k) or R749(2.7k) failure
Check pin㉔of IC701 (FEOUT)
No waveform or upper and lower amplitudes are not equal.
Upper and lower amplitudes of waveform are equal.
IC701 failure
Is there output at pin㉚ of IC702? (FBAL)
NG
OK
IC702 failure
Optical pickup failure


A
Remove the test disc
Turn on PLAY switch
Does optical pickup move?
NO
Optical pickup moves toward inner track once and then toward outer track slightly (2 or 3mm)
Does lens make vertical movements?
NO
YES
Does laser diode turn on?
NO
YES
Measure voltage across R701.
Above 0.2V
Below 0.2V
Load the test disc
Optical pickup failure (Laser diode NG)
Turn on PLAY switch
Remains at "H"
B
Check pin ⑮ of IC701 (/RFDET)
Changes from "H" to "L"
Check pin ⑪ of IC702 (/FLOCK)
Remains at "H"
Changes from "H" to "L"
Is there output at pin ㉔ of IC702? (ECM)
Remain at 1.65V (High impedance)
Changes from 1.65V to "L" (High impedance)
IC702 failure
Are there output at pin ⑪⑫ of IC703.
NG
OK
Spindle motor failure
IC703 failure
Check the position of optical pickup.
At outer or around middle track
At inner track
Is pin② of CN702 "H" or "L"
"L"
"H"
Is pin② of CN702 "H" or "L"
"H"
Inner track limit switch (S701) is defective or disconnected
"L"
Inner track limit switch (S701) is short-circuited
Are there output at pins ⑮⑯ of IC703?
NG
OK
Optical pickup failure
Are there outputs at pins ⑬⑭ of IC703?
NG
OK
Traverse deck failure
Measure voltage across R701.
Below 0.4V
Above 0.4V
Optical pickup failure
Is there output at pin ㉘ of IC702? (FOD)
NG
OK
IC703 failure
Is there output at pin ㉑ of IC702? (TRV)
OK
IC703 failure
IC702 failure
Measure voltage between Ⓑ and Ⓔ of Q701
Above 0.6V
Below 0.6V
IC701 failure
Q701 or optical pickup is defective


Power ON with removing MD and CD.
It is in adjustment mode? (Refer to "Measurements and Adjustments")
NO
CN4's power supply lines are OK?
NO
Check the power supply of unit side.
CN4
⑮ 5V ⑲ 5V ⑳ 3.3V
㉑ 5V ㉗ 3.5V
YES
Enter the read power adjustment mode (Refer to "Measurements and Adjustments").
YES
IC10-Pin32 is oscillating?
NO
IC10 -pin32
10.02MHz
YES
IC10 is broken.
NO
Read power output is OK?
YES
It can be less than 680μW by VR1?
NO
Optical pickup is broken.
YES
IC10-pin21 is "H"?
YES
Enter the write power adjustment mode (Refer to "Measurements and Adjustments").
NO
YES
CN4 -pin14 is "H"?
NO
Write power output is OK?
YES
NO
Check the reset circuit of unit side.
"Write power adjustment" "Playback-only disc adjustment" and "Magneto-optical disc adjustment".
②
Continuing to next page.
To "Playback-only and magnet-optical discs movement".
①
Continuing to next page.

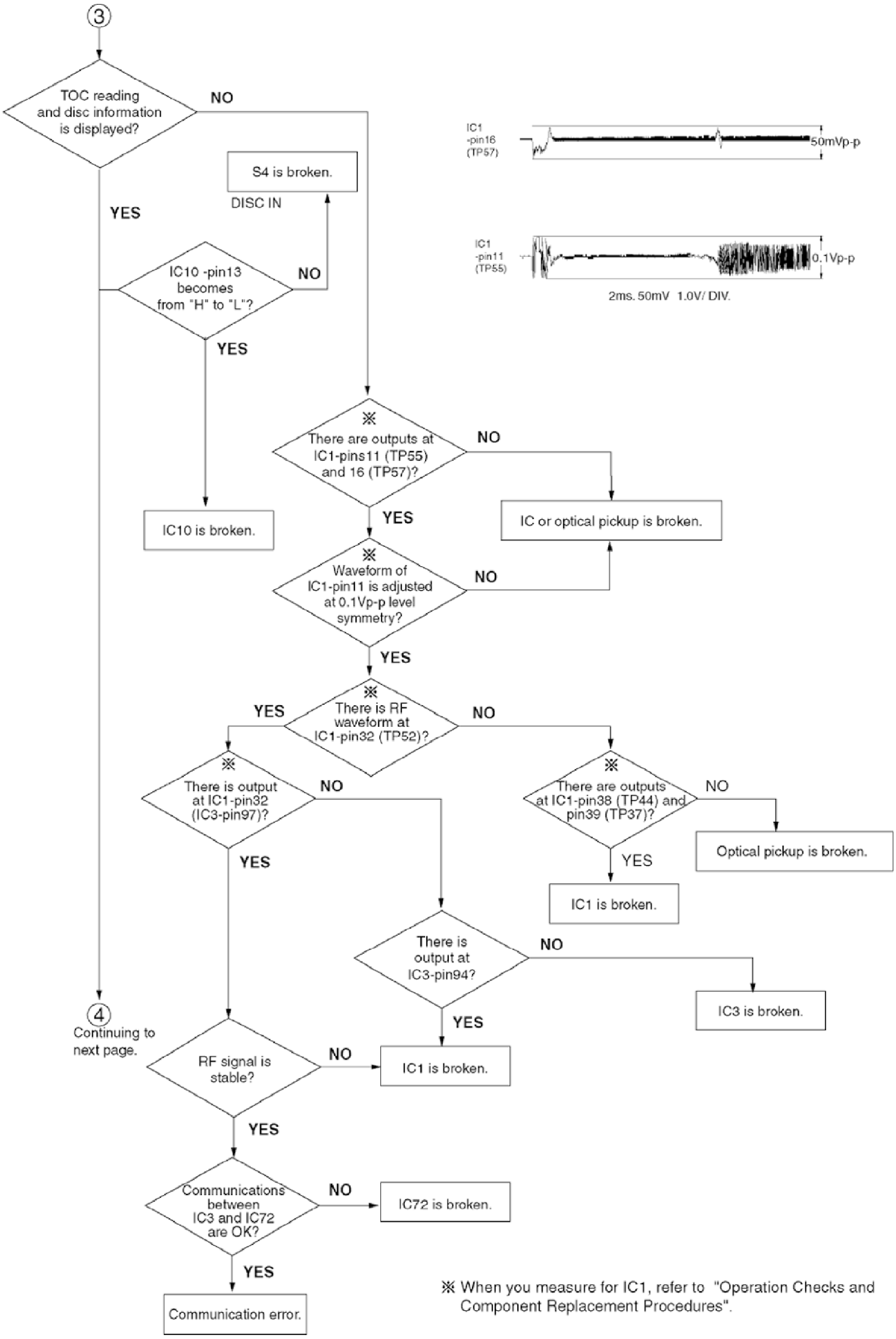

①
YES
※
The voltage of IC1-pin37 is approx. 1.3V?
NO
There is waveform at IC1-pin36?
IC3 -pin36
3.2V
0V
NO
IC3 is broken.
YES
IC1 is broken.
YES
The voltages at the each sides of R5 are more than 0.1V?
NO
IC3 -pin55
3.3V
0V
YES
Optical pickup is broken.
There is output at IC3-pin92?
NO
IC3 is broken.
YES
The voltage of IC1-pin2 (left side of R8) is approx.2.5V?
NO
IC1 is broken.
YES
The voltages at the each sides of R5 are 0V?
NO
Optical pickup is broken.
YES
Q1 is broken.
②
The voltages at the each side of R5 are more than 0.26V?
NO
IC3 -pin92
3.3V
0V
YES
Optical pickup is broken.
There is output at IC3-pin92?
NO
IC3 is broken.
YES
※
The voltage of IC1-pin2 (left side of R8) is approx.2.5V?
NO
IC1 is broken.
YES
Optical pickup is broken.

※ When you measure for IC1, refer to "Operation Checks and Component Replacement Procedures".

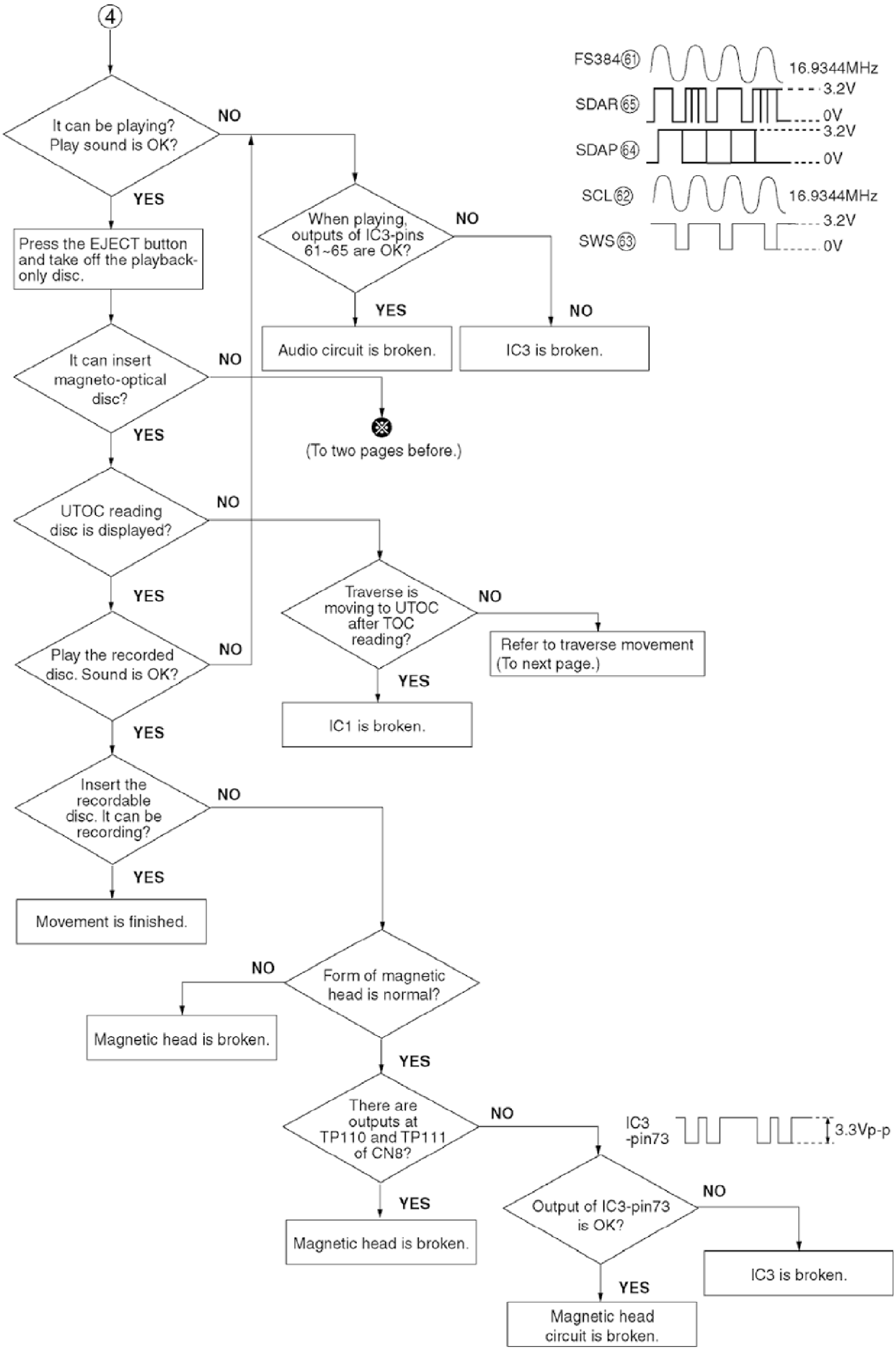

Playback-only and magneto-optical discs movement.
It can insert the playback-only disc correctly?
NO
YES
CN4-pin18's voltage becomes from "H" to "L" when the disc is inserted?
NO
LOADING TRG S7 is broken.
YES
The disc is rotating?
NO
YES
IC3-pin21
The voltage fluctuates up and down for VREF (1.3V)
Output of IC3-pin21 is oscillating up and down for VREF(1.3V)?
NO
IC3 is broken.
YES
There are voltages between IC2-pin17 and pin18?
NO
IC2 is broken.
YES
Spindle motor is broken.
Outputs of IC10-pins 13,15,17 and 18 are OK?
NO
S3,5,4,6 are broken.
YES
The voltages of IC10-pins 8,9 are OK?
NO
IC10 is broken.
YES
There are voltages at IC92-pins 2,4?
NO
IC92 is broken.
YES
Loading motor is broken.
Optical pickup is moving up and down?
NO
YES
IC3-pin18
The voltage fluctuates up and down for VREF(1.3V)?
Output of IC3-pin18 is oscillating up and down for VREF (1.3V)?
NO
IC3 is broken.
YES
There are voltages between IC2-pin13 and pin14?
NO
IC2 is broken.
YES
Optical pickup is broken.
③
Continuing to next page.

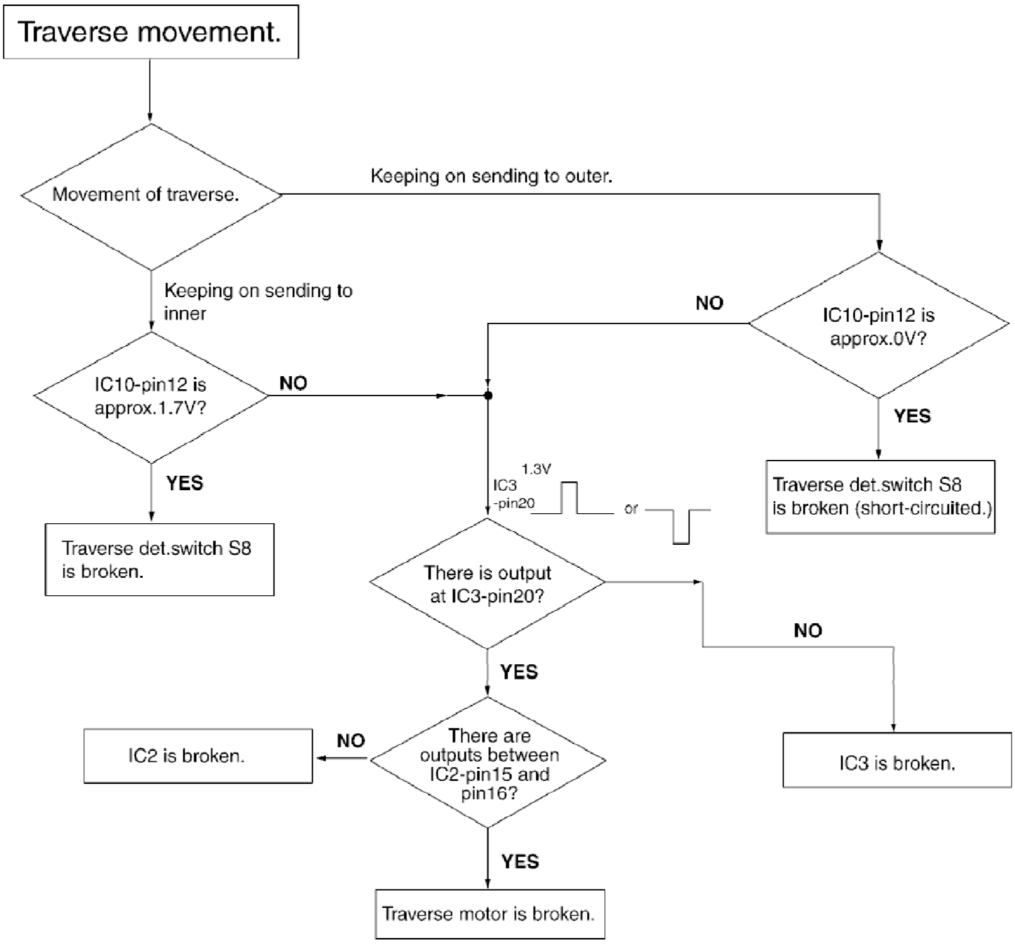
H: 3.3V/L: 0V

IC10	Disc tray OPEN	STOP/PLAY	REC
S3: LOAD OPEN SW0⑮	L	H	H
S4:DISC IN⑬	H	L	L
S5: LOAD PLAY/REC SW2⑰	H	L	H
S6: LOAD PLAY SW3⑱	H	H	L


③
TOC reading and disc information is displayed?
NO
YES
S4 is broken.
DISC IN
IC10 -pin13 becomes from "H" to "L"?
NO
YES
IC10 is broken.
IC1 -pin16 (TP57)
50mVp-p
IC1 -pin11 (TP55)
0.1Vp-p
2ms. 50mV 1.0V/ DIV.
※ There are outputs at IC1-pins11 (TP55) and 16 (TP57)?
NO
IC or optical pickup is broken.
YES
※ Waveform of IC1-pin11 is adjusted at 0.1Vp-p level symmetry?
NO
YES
※ There is RF waveform at IC1-pin32 (TP52)?
YES
NO
※ There is output at IC1-pin32 (IC3-pin97)?
NO
YES
※ There are outputs at IC1-pin38 (TP44) and pin39 (TP37)?
NO
Optical pickup is broken.
YES
IC1 is broken.
There is output at IC3-pin94?
NO
IC3 is broken.
YES
④ Continuing to next page.
RF signal is stable?
NO
IC1 is broken.
YES
Communications between IC3 and IC72 are OK?
NO
IC72 is broken.
YES
Communication error.

※ When you measure for IC1, refer to "Operation Checks and Component Replacement Procedures".


④
It can be playing? Play sound is OK?
NO
YES
Press the EJECT button and take off the playback-only disc.
It can insert magneto-optical disc?
NO
YES
UTOC reading disc is displayed?
NO
YES
Play the recorded disc. Sound is OK?
NO
YES
Insert the recordable disc. It can be recording?
NO
YES
Movement is finished.
When playing, outputs of IC3-pins 61~65 are OK?
NO
YES
Audio circuit is broken.
NO
IC3 is broken.
(To two pages before.)
Traverse is moving to UTOC after TOC reading?
NO
Refer to traverse movement (To next page.)
YES
IC1 is broken.
FS384 (61)
16.9344MHz
SDAR (65)
3.2V
0V
SDAP (64)
3.2V
0V
SCL (62)
16.9344MHz
SWS (63)
3.2V
0V
Form of magnetic head is normal?
NO
Magnetic head is broken.
YES
There are outputs at TP110 and TP111 of CN8?
NO
YES
Magnetic head is broken.
IC3 -pin73
3.3Vp-p
Output of IC3-pin73 is OK?
NO
IC3 is broken.
YES
Magnetic head circuit is broken.


Traverse movement.
Movement of traverse.
Keeping on sending to outer.
Keeping on sending to inner
IC10-pin12 is approx.1.7V?
NO
YES
Traverse det.switch S8 is broken.
IC10-pin12 is approx.0V?
NO
YES
Traverse det.switch S8 is broken (short-circuited.)
1.3V
IC3 -pin20
or
There is output at IC3-pin20?
NO
YES
IC3 is broken.
There are outputs between IC2-pin15 and pin16?
NO
IC2 is broken.
YES
Traverse motor is broken.

17. Parts Location and Replacement Parts List

Notes:

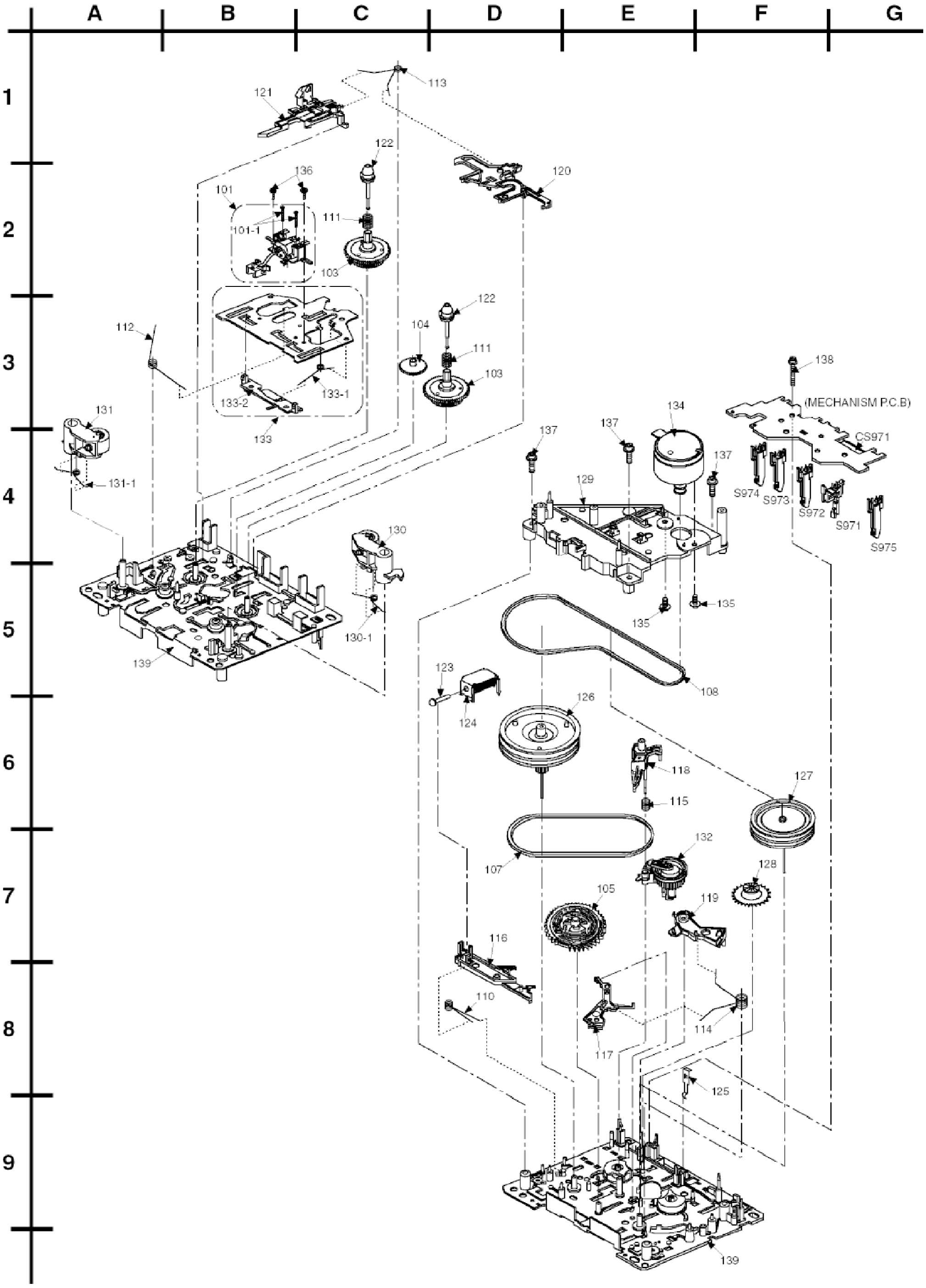
- **Important safety notice:**
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardent (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.
  When replacing any of these components, be sure to use only manufacturer’s specified parts shown in the parts list.
- **The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)**
  Parts without these indications can be used for all areas.
- **Warning: This product uses a laser diode. Refer to caution statements “Precaution of Laser Diode”.**
  ACTUNG:
- **Die Lasereinheit nicht zerlegen.**

- **Die Lasereinheit darf nur gegen eine vom Hertsteller spezifizierte Einheit ausgetauscht werden.**
- **Capacitor values are in microfarads (μ F) unless specified otherwise, P= Pico-farads (pF), F= Farads.**
- **Resistance values are in ohms, unless specified otherwise, 1K= 1,000 (OHM).**
- **The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.**
- **[M] Indicates in the Remarks columns indicates parts supplied by MESA.**
- **The “(SF)” mark denotes the standard part.**
- **Remote Control Unit: Supply period for three years from terminal of production.**
- **Reference for O/I book languages are as follows:**

Ar :	**Arabic**	**Du :**	**Dutch**	**It :**	**Italian**	**Sp :**	**Spanish**
Cf :	**Canadian French**	**En :**	**English**	**Ko :**	**Korean**	**Sw :**	**Swedis**
Cz :	**Czech**	**Fr :**	**French**	**Po :**	**Polish**	**Co :**	**Traditio Chinese**
Da :	**Danish**	**Ge :**	**German**	**Ru :**	**Russian**	**Cn :**	**Simplifi Chinese**

17.1. Deck Mechanism (RAA4106)

17.1.1. Deck Mechanism Parts Location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(MECHANISM P.C.B)
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CS971
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S974
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S972
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S975
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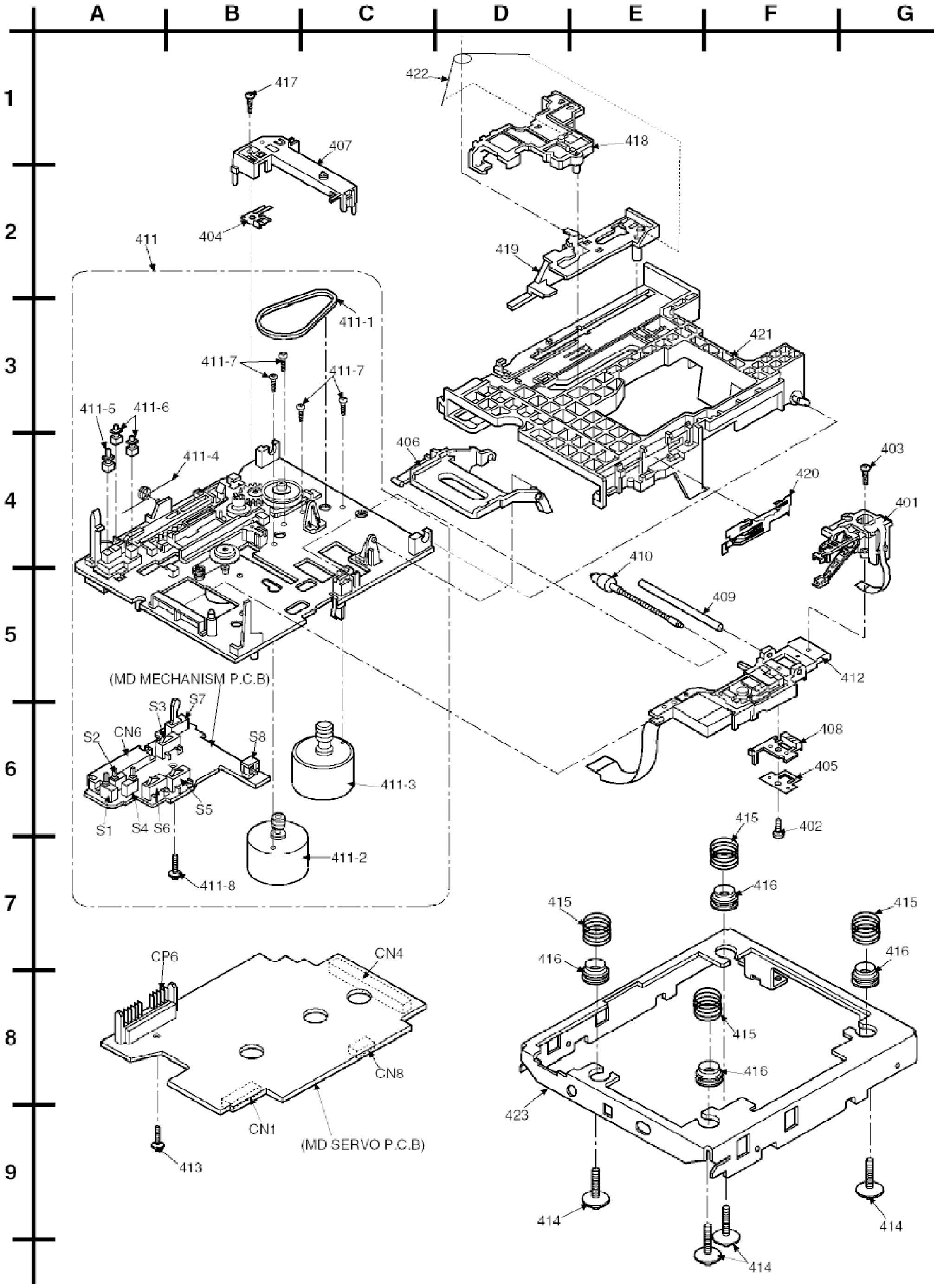
17.1.2. Deck Mechanism Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK	
101	RED0043	R/P HEAD BLOCK UNIT	[M]
101-1	RHD17015	SCREW	[M]
103	RDG0300	REEL BASE GEAR	[M]
104	RDG0301	WINDING RELAY GEAR	[M]
105	RDK0026	MAIN GEAR	[M]
107	RDV0033-4	WINDING BELT	[M]
108	RDV0034-1	CAPSTAN BELT ‘A’	[M]
110	RMB0312	TRIGGER LEVEL SPRING	[M]
111	RMB0400	REEL SPRING	[M]
112	RMB0403	HEAD PANEL SPRING	[M]
113	RMB0404	BRAKE ROD SPRING	[M]
114	RMB0406	FR LEVER SP	[M]
115	RMB0408	THRUST SPRING	[M]
116	RML0370	TRIGGER LEVER	[M]
117	RML0371	FR LEVER	[M]
118	RML0372	WINDING LEVER	[M]
119	RML0374	EJECT LEVER	[M]
120	RMM0131	BRAKE ROD	[M]
121	RMM0133-1	EJECT ROD	[M]
122	RMQ0519	REEL HUB	[M]
123	RMS0398-1	MOVING CORE	[M]
124	RSJ0003	PLUNGER	[M]
125	RMC0061	PACK SPRING	[M]
126	RXF0049	FLYWHEEL ‘F’ ASS’Y	[M]
127	RXF0050	FLYWHEEL ‘R’ ASS’Y	[M]
128	RXG0040	FF RELAY GEAR ASS’Y	[M]
129	RMK0283A-J	SUB CHASSIS	[M]
130	RXL0124	PINCH ARM ‘F’ ASS’Y	[M]
130-1	RMB0401	PINCH ARM SPRING ‘F’	[M]
131	RXL0125	PINCH ARM ‘R’ ASS’Y	[M]
131-1	RMB0402	PINCH ARM SPRING ‘R’	[M]
132	RXL0126	WINDING ARM ASS’Y	[M]
133	RXQ0412	HEAD PANEL ASS’Y	[M]
133-1	RMB0405	FR ROD SPRING	[M]
133-2	RMM0132	FR ROD	[M]
134	REM0064-2	CAP MOTOR ASS’Y	[M]
135	RHD26022	MOTOR SCREW	[M]
136	XTW2+5L	HEAD BLOCK UNIT SCRE	[M]
137	XTW26+10S	SUB-CHASSIS SCREW	[M]
138	XYC2+JF17	PCB EARTH SCREW	[M]
139	RFKJSTR280PP	CHASSIS ASS’Y	[M]

17.2. MD Mechanism

17.2.1. MD Mechanism Parts Location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(MD MECHANISM P.C.B)
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CN8
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CN1
(MD SERVO P.C.B)
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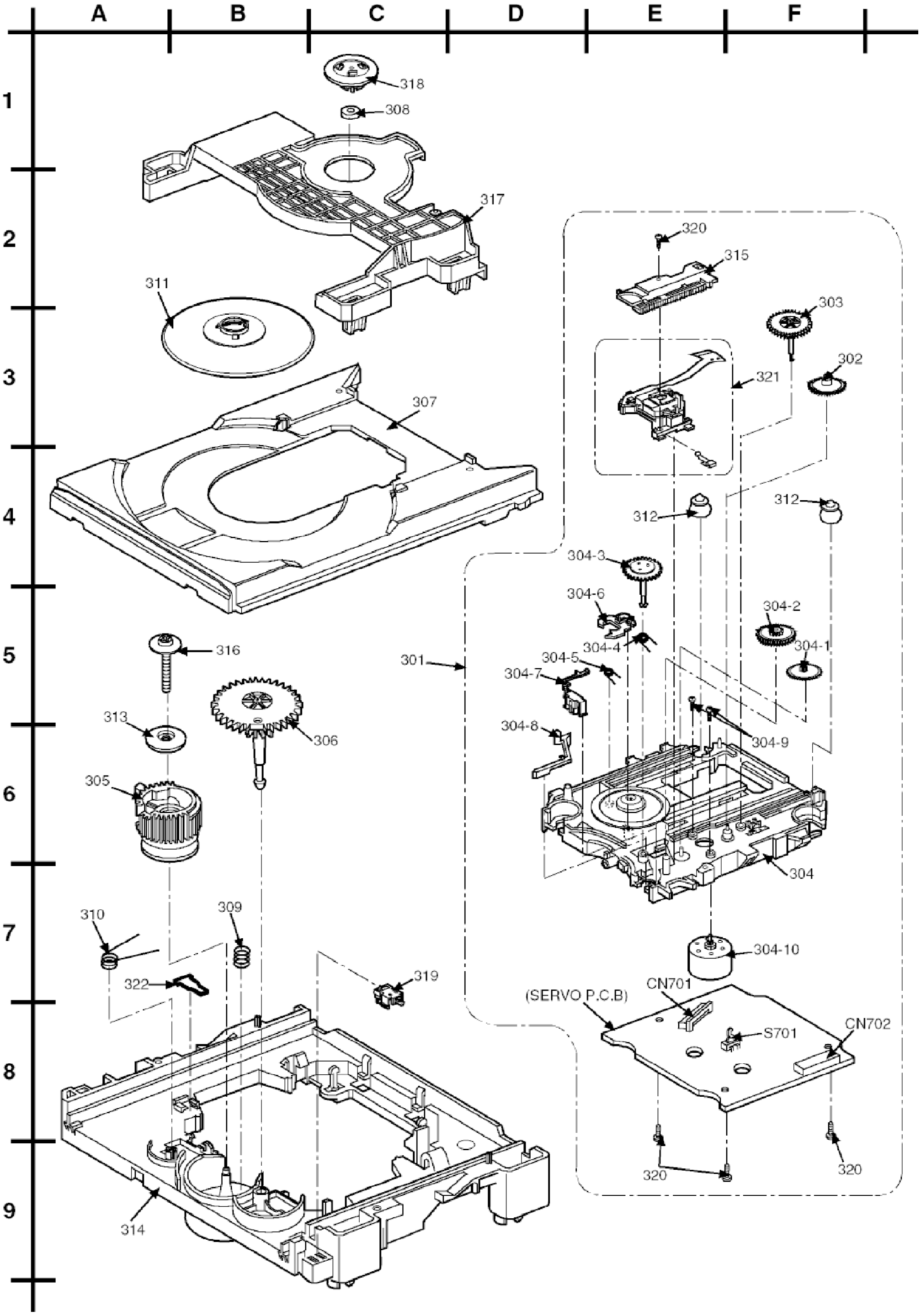
17.2.2. MD Mechanism Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
401	RED0047-2	RECORDING HEAD	[M]
402	RHD17021	NUT PLATE SCREW	[M]
403	RHD17022	RECORDING HEAD SCREW	[M]
404	RMC0348	THRUST SPRING	[M]
405	RMC0349	NUT PLATE SPRING	[M]
406	RML0515	HEAD SHIFTER	[M]
407	RMQ0750	REF BASE	[M]
408	RMQ0751	NUT PLATE	[M]
409	RMS0611	MAIN SHAFT	[M]
410	RXJ0021	DRIVE SHAFT ASS'Y	[M]
411	RXK0249	MECHA CHASSIS UNIT	[M]
411-1	RDV0055-J	BELT	[M]
411-2	REM0077	TRAVERSE MOTOR ASS'Y	[M]
411-3	REM0078	LOADING MOTOR ASS'Y	[M]
411-4	RMB0548	HOLDER SPRING	[M]
411-5	RMQ0752	PIN A (BLACK)	[M]
411-6	RMQ0753	PIN B (NATURAL)	[M]
411-7	XQN17+C25FZ	MOTOR SCREW	[M]
411-8	XYC2+FF105	PCB SCREW	[M]
412	RAF1701A-S	MD OPU	[M]
413	XTW2+6S	SCREW	[M]
414	RHD20053	SCREW	[M]
415	RMB0504	DAMPER SPRING	[M]
416	RMG0447-K2	DAMPER	[M]
417	XTN17+6GFZ	REF. BASE SCREW	[M]
418	RML0514	LOCK LEVER	[M]
419	RMM0199	SLIDER	[M]
420	RMM0200	SHUTTER OPENER	[M]
421	RMR1118-K2	HOLDER	[M]
422	RMB0547-1	LOCK LEVER SPRING	[M]
423	RMA1117-1J	MECAH BASE FRAME	[M]

17.3. CD Loading Mechanism

17.3.1. CD Loading Mechanism Parts Location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(SERVO P.C.B)
CN701
S701
CN702
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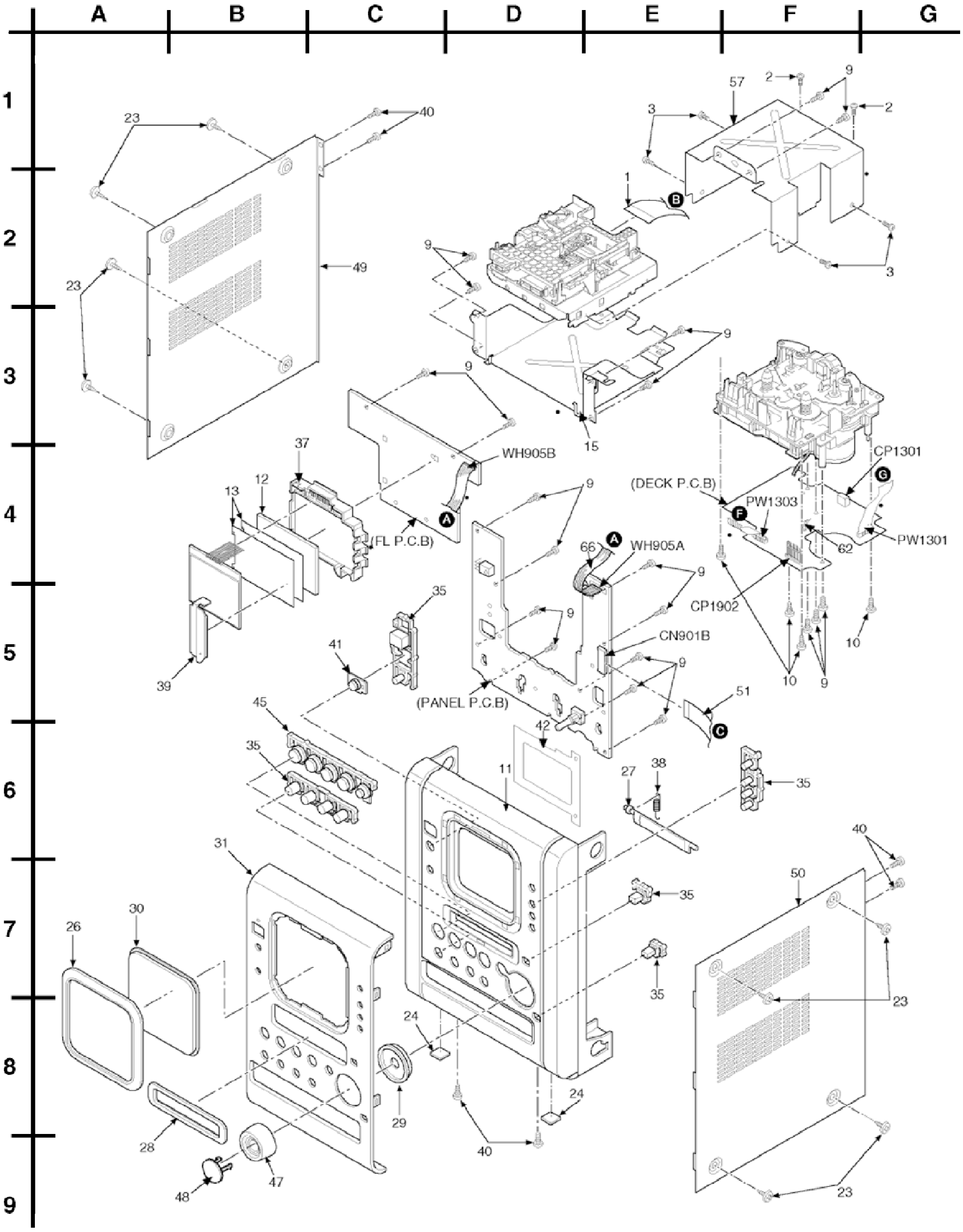
17.3.2. CD Mechanism Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RAE0155Z-1V	CT100W TRAVERSE	[M]
302	RDG0455	TRAVERSE GEAR (A)	[M]
303	RDG0456	TRAVERSE GEAR (B)	[M]
304	RFKNCT100	TRAVERSE BASE ASS’Y	[M]
304-1	RDG0457	LOAD GEAR (A)	[M]
304-2	RDG0458	LOAD GEAR (B)	[M]
304-3	RDG0459	LOAD GEAR (C)	[M]
304-4	RME0290	PRESS SPRING	[M]
304-5	RME0291	LOCK SPRING	[M]
304-6	RML0551	TRG LEVER	[M]
304-7	RML0552	LOCK LEVER	[M]
304-8	RMM0219	STOPPER	[M]
304-9	XQN17+C28F	SCREW	[M]
304-10	RXQ0632	TRV MOTOR UNIT	[M]
305	RDG0460	CAM GEAR	[M]
306	RDG0461	DRIVE GEAR	[M]
307	RGQ0292-H	TRAY	[M]
308	RHM0001	MAGNET	[M]
309	RMB0603	FLOATING SPRING	[M]
310	RME0288	CENTERING SPRING	[M]
311	RFKNXED50-S	CLAMPER HOLDER ASS’Y	[M]
312	RMG0510-K	FLOATING RUBBER (A)	[M]
313	RMG0511-K	FLOATING RUBBER (B)	[M]
314	RMK0422	MECHA CHASSIS	[M]
315	RMM0218	TRAVERSE DRIVE RACK	[M]
316	RHD30083	CAM. GEAR SCREW	[M]
317	RMR1223-K	CLAMP PLATE	[M]
318	RMR1242-X1	FIXTURE	[M]
320	XTN2+6G	SCREW	[M]
321	RXQ0704	OPU UNIT	[M]
322	RMG0544-H	BRAKE SHOE	[M]

17.4. Cabinet

17.4.1. Cabinet Parts Location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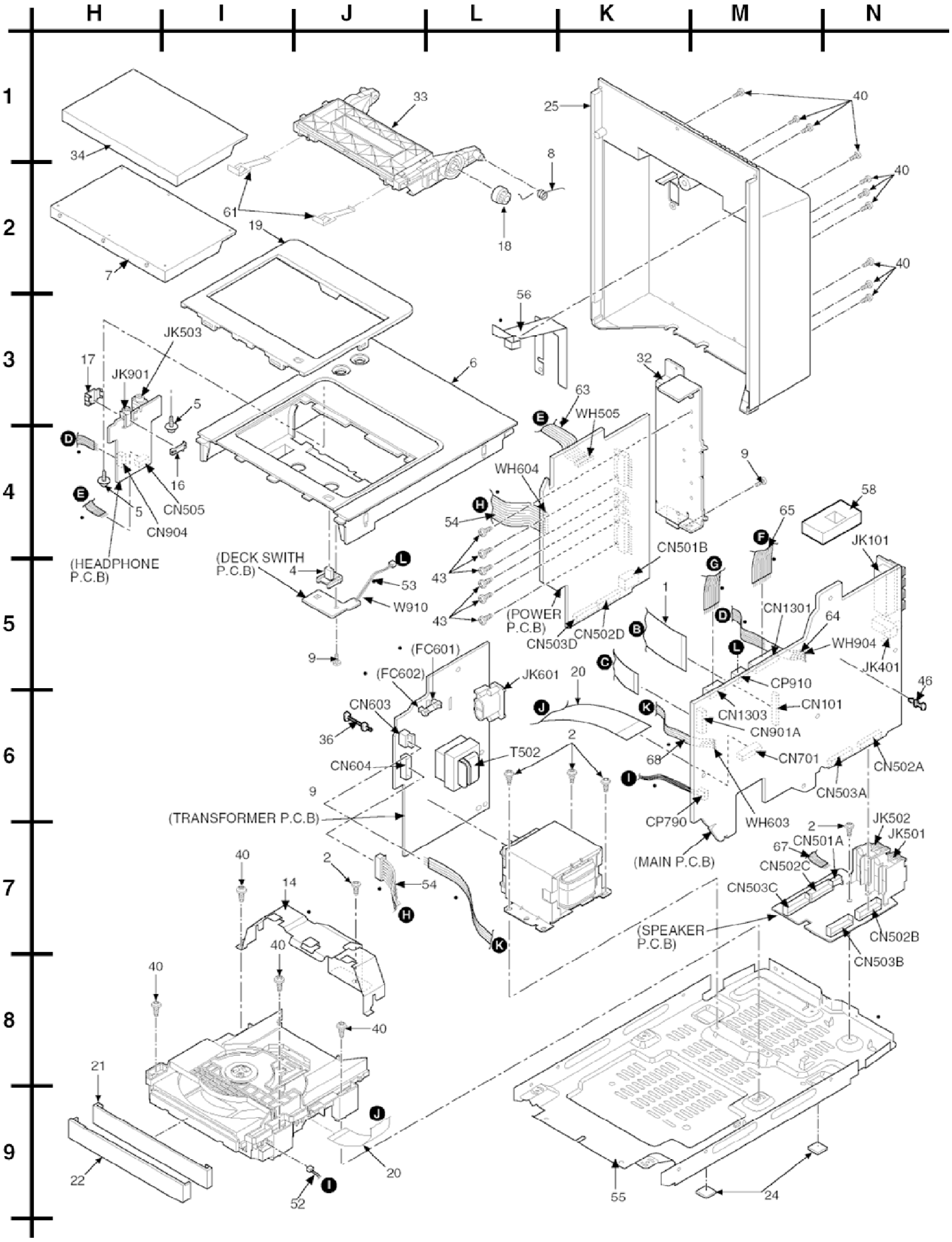
PW1301
CP1902
CN901B
(PANEL P.C.B)
C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CN503D
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WH603
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CN502C
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CN503C
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(SPEAKER P.C.B)
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CN503B
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17.4.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEX0098	30P FFC	[M]
2	XTB3+8JFZ	SCREW	[M]
3	XTV26+5F	TAPPING SCREW M26X6	[M]
4	RGUX0359-W	CASS EJECT BUTTON	[M]
5	RHD26016	SCREW (PHONE JACK)	[M]
6	RKMX0055-S	TOP CABINET	[M]
7	RGPX0035-S	CASS LID	[M]
8	RMBX0014	CASS OPEN SPRING	[M]
9	XTBS26+10J	SCREW	[M]
10	XTV3+10G	SCREW	[M]
11	RKMX0056-S	FRONT CABINET	[M]
12	RGLX0027	LCD LIGHTING PANEL	[M]
13	RGPX0037	LCD DIFFUSER SHEET	[M]
14	RMNX0035	MD MECHA SUPPORTER	[M]
15	RMNX0034	MD ANGLE	[M]
16	RMN0567	JACK HOLDER (B)	[M]
17	RMN0566	JACK HOLDER (A)	[M]
18	RDG0357	DUMPER GEAR	[M]
19	RKQX0011-W	TOP CAB ORNAMENT	[M]
20	REEX0097	19P FFC	[M]
21	RGKX0060-S	CD LID	[M]
22	RGKX0061-W	CD LID ORNAMENT	[M]
23	RHD30007-S	SCREW	[M]
24	RKA0095-K	LEG FELT	[M]
25	RFKHAPM35GCS	REAR CABINET ASS’Y	[M]
26	RGKX0062-S	DISPLAY WINDOW ORNAM	[M]
27	RGKX0063-S	MD LID	[M]
28	RGKX0064-S	MD ORNAMENT	[M]
29	RGKX0066	VOLUME RING ORNAMENT	[M]
30	RGLX0026-D	DISPLAY PANEL	[M]
31	RGPX0036-W	FRONT ORNAMENT	[M]
32	RXXX0028-K	HEAT SINK SUB UNIT	[M]
33	RKF0479-H2	CASS. HOLDER	[M]
34	RGPX0034-W	CASS LID ORNAMENT	[M]
35	RGUX0366-W	FAMILY MOULD BUTTON	[M]
36	RMNX0053	PCB SPACER	[M]
37	RMNX0033-W	LCD HOLDER	[M]
38	RMBX0012	MD LID SPRING	[M]
39	RMNX0037-K	LED COVER	[M]
40	XTB3+10JFZ	SCREW	[M]
41	RGKX0067-W	SENSOR WINDOW	[M]
42	RPKX0017	LCD LIGHTING PANEL	[M]
43	XTV3+8F	SCREW	[M]
45	RGUX0361-Q	FUNCTION BUTTON	[M]
46	RMN0091	SPACER	[M]
47	RGWX0052-Q	VOLUME KNOB	[M]
48	RGKX0065-W	VOLUME KNOB ORNAMENT	[M]
49	RKMX0053-S	SIDE PANEL (L)	[M]
50	RKMX0054-S	SIDE PANEL (R)	[M]
51	REEX0096	15P FFC	[M]
52	REXX0230-1	2P MAIN TO CR100	[M]
53	REXX0231	2P TAPE EJECT	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
54	REXX0232	9P TRANS TO POWER	[M]
55	RMKX0042-1	BOTTOM CHASSIS	[M]
56	RSCX0045	TUNER REAR SHIELD	[M]
57	RSCX0046	MD SHIELD	[M]
58	RSC0027-L	SHIELD CASE	[M]
61	RUS757ZAA	CASS HALF SPRING	[M]
62	RWJ0102050KR	MOTOR WIRE	[M]
63	RWJ0206150RR	6 PIN POWER AMP TO H	[M]
64	RWJ0207215XR	7 PIN MAIN TO MD LIN	[M]
65	RWJ0211090XQ	11 PIN DECK TO MAIN	[M]
66	RWJ1108085RR	8 PIN BACK LIGHT / L	[M]
67	RWJ1108165XQ	8 PIN DECK TO MAIN	[M]
68	RWJ1804270QX	4 PIN TRANS TO MAIN	[M]

17.5. Electrical Part list

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT CIRCUITS	
	REP2895A-T	MD SERVO P.C.B. SIDE A	[M]RTL
	REP2895A-T	MD SERVO P.C.B. SIDE B	[M]RTL
	REP2807C	CD SERVO P.C.B.	[M]RTL
	REPX0227C	MAIN P.C.B.	[M]RTL
	REPX0228C	SPEAKER P.C.B.	[M]RTL
	REPX0226A	FL P.C.B.	[M]RTL
	REPX0226A	PANEL P.C.B.	[M]RTL
	REPX0228C	DECK SWITCH P.C.B.	[M]RTL
	REPX0228C	DECK P.C.B.	[M]RTL
	REPX0228C	POWER P.C.B.	[M]RTL
	REPX0228C	TRANSFORMER P.C.B.	[M]RTL
	REPX0108	DECK MECHANISM P.C.B.	[M]RTL
	REPX0228C	HEADPHONE P.C.B.	[M]RTL
	REP2575A	MD SWITCH P.C.B.	[M]RTL
	REP1999B	TUNER PACK P.C.B.	[M]RTL
		INTEGRATED CIRCUITS	
IC1	AN8772FHQ	IC RF	[M]
IC2	AN8814SB-E1	IC	[M]
IC3	MN66616RA4	IC MSP LSI	[M]
IC4	AK4518VF-E2	IC AD/DA	[M]
IC5	RN5RG33AA-TL	IC REGULATOR	[M] ⚠
IC6	TC7W04FTE12L	IC	[M]
IC9	RN5RZ26BA-TR	IC REGULATOR	[M] ⚠
IC10	MN101D03DAA1	IC	[M]
IC11	TC74HCT00AFL	IC	[M]
IC72	M51V4400D7FS	IC 4M DRAM	[M]
IC92	LB1830MS-TLM	IC MOTOR DR	[M]
IC101	LA1833NMNTLM	IC IF & MPX	[M]
IC102	LC72131MDTRM	IC PLL	[M]
IC401	BD3861FS-E2	IC AUDIO	[M]
IC501	AN7135	IC POWER AMP	[M]
IC502	AN7194K-LD	IC BTC POWER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
IC601	UPC29M33HF	IC	[M] ⚠
IC701	AN8839NSBE2	IC HEAD AMP	[M]
IC702	MN662790RSC	IC LSI	[M]
IC703	BA5948FPE2	IC 4 CH DRIVE	[M]
IC801	M30622MC4A3F	IC MICOM	[M]
IC802	TC74HCT7007A	IC 3V TO 5V	[M]
IC902	BU2090AF-E2	IC I/O EXPANDER	[M]
IC971	0N2180RLC1	PHOTO INTERUPTOR	[M]
IC1301	BA7755A	IC ANALOG SW	[M]
IC1302	TA8142AP	IC PB/REC PRE-AMP	[M]
IC1303	BA4558FE2	IC OP AMP	[M]
		TRANSISTORS	
Q1	2SB1295-6-TB	TRANSISTOR	[M]
Q1	2SK544F-AC	TRANSISTOR	[M]
Q2	2SC2786MTA	TRANSISTOR	[M]
Q2	DTC114YETL	TRANSISTOR	[M]
Q3	2SB1462STX	TRANSISTOR	[M]
Q3	2SC2787FL1TA	TRANSISTOR	[M]
Q4	2SC2787FL1TA	TRANSISTOR	[M]
Q5	2SB1295-6-TB	TRANSISTOR	[M]
Q6	DTC114YETL	TRANSISTOR	[M]
Q10	2SJ278MYTR	TRANSISTOR	[M]
Q11	2SK1764KYTR	TRANSISTOR	[M]
Q13	2SB1121ST-TD	TRANSISTOR	[M] ⚠
Q101	2SC2058SPTA	TRANSISTOR	[M]
Q106	KRA102MTA	TRANSISTOR	[M]
Q403	KTC3875GRTA	TRANSISTOR	[M]
Q404	KTC3875GRTA	TRANSISTOR	[M]
Q405	KTC3875GRTA	TRANSISTOR	[M]
Q406	KTC3875GRTA	TRANSISTOR	[M]
Q407	2SJ498CTA	TRANSISTOR	[M]
Q408	KTC3875GRTA	TRANSISTOR	[M]
Q411	KTC3875GRTA	TRANSISTOR	[M]
Q412	KTC3875GRTA	TRANSISTOR	[M]
Q501	2SD2144STA	TRANSISTOR	[M]
Q502	2SD2144STA	TRANSISTOR	[M]
Q542	KRA102MTA	TRANSISTOR	[M]
Q602	KRC102MTA	TRANSISTOR	[M]
Q603	KTC2026	TRANSISTOR	[M] ⚠
Q604	KTC3199GRTA	TRANSISTOR	[M]
Q605	KRC119MTA	TRANSISTOR	[M]
Q606	2SA952LTA	TRANSISTOR	[M]
Q609	KTA1046	TRANSISTOR	[M] ⚠
Q610	KTC3199GRTA	TRANSISTOR	[M]
Q611	2SD592ARTA	TRANSISTOR	[M] ⚠
Q612	KRC101MTA	TRANSISTOR	[M]
Q613	KRA119MTA	TRANSISTOR	[M]
Q614	KRA119MTA	TRANSISTOR	[M]
Q615	KTA1046	TRANSISTOR	[M] ⚠
Q616	KTC3199GRTA	TRANSISTOR	[M]
Q617	KTC3199GRTA	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q618	KTA1046	TRANSISTOR	[M] ⚠
Q619	KTC3199GRTA	TRANSISTOR	[M]
Q620	KRA110MTA	TRANSISTOR	[M]
Q701	2SA1037AKSTX	TRANSISTOR	[M]
Q701	KTC3875GRTA	TRANSISTOR	[M]
Q702	DTC143XKA146	TRANSISTOR	[M]
Q702	KTA1504GRTA	TRANSISTOR	[M]
Q703	DTA143XKA146	TRANSISTOR	[M]
Q703	KTC3875GRTA	TRANSISTOR	[M]
Q803	KRC104STA	TRANSISTOR	[M]
Q901	KRA119MTA	TRANSISTOR	[M]
Q902	KRC119MTA	TRANSISTOR	[M]
Q903	KRA119MTA	TRANSISTOR	[M]
Q904	KRC119MTA	TRANSISTOR	[M]
Q905	KRC119MTA	TRANSISTOR	[M]
Q906	KRA119MTA	TRANSISTOR	[M]
Q907	KRC119MTA	TRANSISTOR	[M]
Q908	KRA119MTA	TRANSISTOR	[M]
Q909	2SD592ARTA	TRANSISTOR	[M] ⚠
Q911	KRC119MTA	TRANSISTOR	[M]
Q912	KTC3199GRTA	TRANSISTOR	[M]
Q913	2SA933SSTA	TRANSISTOR	[M]
Q914	KTC3199GRTA	TRANSISTOR	[M]
Q1101	2SJ498CTA	TRANSISTOR	[M]
Q1102	2SJ498CTA	TRANSISTOR	[M]
Q1103	KTC3199GRTA	TRANSISTOR	[M]
Q1104	KTC3199GRTA	TRANSISTOR	[M]
Q1105	2SJ498CTA	TRANSISTOR	[M]
Q1106	KRC113MTA	TRANSISTOR	[M]
Q1201	2SJ498CTA	TRANSISTOR	[M]
Q1202	2SJ498CTA	TRANSISTOR	[M]
Q1203	KTC3199GRTA	TRANSISTOR	[M]
Q1204	KTC3199GRTA	TRANSISTOR	[M]
Q1205	2SJ498CTA	TRANSISTOR	[M]
Q1206	KRC113MTA	TRANSISTOR	[M]
Q1302	2SC1845FTA	TRANSISTOR	[M]
Q1303	2SC2001LTA	TRANSISTOR	[M]
Q1304	KRC110MTA	TRANSISTOR	[M]
Q1305	KTC3199GRTA	TRANSISTOR	[M]
Q1306	KTC3199GRTA	TRANSISTOR	[M]
Q1307	KTC3199GRTA	TRANSISTOR	[M]
Q1308	KTC3199GRTA	TRANSISTOR	[M]
Q1309	KTC3199GRTA	TRANSISTOR	[M]
Q1310	KRC102MTA	TRANSISTOR	[M]
Q1311	KRC106MTA	TRANSISTOR	[M]
Q1313	KTC3199GRTA	TRANSISTOR	[M]
Q1317	KRA106MTA	TRANSISTOR	[M]
Q1318	KTC3199GRTA	TRANSISTOR	[M]
Q1319	2SD965RTA	TRANSISTOR	[M]
Q1320	2SB1030RTA	TRANSISTOR	[M]
Q1330	KTC3199GRTA	TRANSISTOR	[M]
		DIODES	

Ref. No.	Part No.	Part Name & Description	Remarks
D1	SVC211SPA-AL	DIODE	[M]
D2	SVC211SPA-AL	DIODE	[M]
D3	SVC211SPA-AL	DIODE	[M]
D5	SC80209TE12R	DIODE	[M]
D6	SC80209TE12R	DIODE	[M]
D9	MA728TX	DIODE	[M]
D101	UDZSTE175R1B	DIODE	[M] ⚠
D103	RL1N4003N02	DIODE	[M]
D401	1SS355TE17	DIODE	[M]
D534	RVD1SS133TA	DIODE	[M]
D535	RVD1SS133TA	DIODE	[M]
D538	RVD1SS133TA	DIODE	[M]
D542	RB441Q40T77	DIODE	[M]
D545	RVD1SS133TA	DIODE	[M]
D546	RB441Q40T77	DIODE	[M]
D547	MTZJ5R1BTA	DIODE	[M]
D548	RVD1SS133TA	DIODE	[M]
D601	RL1N4003N02	DIODE	[M]
D603	RL1N4003N02	DIODE	[M]
D605	MTZJ6R8ATA	DIODE	[M] ⚠
D607	AK03WK	DIODE	[M] ⚠
D608	AK03WK	DIODE	[M] ⚠
D609	RL1N4003N02	DIODE	[M] ⚠
D610	RL1N4003N02	DIODE	[M] ⚠
D611	RVD1SS133TA	DIODE	[M]
D612	RVD1SS133TA	DIODE	[M]
D613	RVD1SS133TA	DIODE	[M]
D615	MTZJ16ATA	DIODE	[M] ⚠
D616	RVD1SS133TA	DIODE	[M]
D617	RL1N4003N02	DIODE	[M] ⚠
D618	RVD1SS133TA	DIODE	[M]
D619	RVD1SS133TA	DIODE	[M]
D620	SB360L6508	DIODE	[M] ⚠
D621	RVD1SS133TA	DIODE	[M]
D622	SB360L6508	DIODE	[M] ⚠
D624	SB360L6508	DIODE	[M] ⚠
D625	SB360L6508	DIODE	[M] ⚠
D626	MTZJ8R2CTA	DIODE	[M] ⚠
D627	RL1N4003N02	DIODE	[M]
D628	MTZJ5R6BTA	DIODE	[M]
D629	AK03WK	DIODE	[M] ⚠
D630	AK03WK	DIODE	[M] ⚠
D750	MA8056MTX	DIODE	[M]
D801	1SS380TE-17	DIODE	[M]
D802	1SS380TE-17	DIODE	[M]
D803	1SS355TE17	DIODE	[M]
D804	1SS355TE17	DIODE	[M]
D805	1SS380TE-17	DIODE	[M]
D806	1SS380TE-17	DIODE	[M]
D807	DAP202KT146	DIODE	[M]
D808	DAP202KT146	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D809	RL1N4003N02	DIODE	[M]
D901	NSPW510BS	DIODE	[M]
D902	NSPW510BS	DIODE	[M]
D903	NSPW510BS	DIODE	[M]
D904	SLR325MCT31W	DIODE	[M]
D905	SLR325MCT31W	DIODE	[M]
D906	SLR325MCT31W	DIODE	[M]
D907	SML79455C	DIODE	[M]
D908	SML79455C	DIODE	[M]
D909	SML79455C	DIODE	[M]
D910	SML79455C	DIODE	[M]
D911	MTZJ3R9BTA	DIODE	[M] ⚠
D912	SLR325MCT31W	DIODE	[M]
D913	SLR325MCT31W	DIODE	[M]
D914	RVD1SS133TA	DIODE	[M]
D915	RVD1SS133TA	DIODE	[M]
D916	SLC-22VR	DIODE	[M]
D917	MTZJ8R2BTA	DIODE	[M]
D918	RVD1SS133TA	DIODE	[M]
D919	MTZJ8R2BTA	DIODE	[M]
D920	MTZJ8R2BTA	DIODE	[M]
D971	MA165TA	DIODE	[M]
D1301	RVD1SS133TA	DIODE	[M]
D1303	RVD1SS133TA	DIODE	[M]
		VARIABLE RESISTORS	
VR1	EVM3YSX50B14	VR	[M]
VR901	EVEKE2F2024B	VR VOLUME JOG	[M]
		SWITCHES	
S1	RSH1A91ZA-A	SW CD	[M]
S2	RSH1A91ZA-A	SW CD	[M]
S3	RSH1A044-1A	SW OPEN	[M]
S4	RSH1A91ZA-A	SW CD	[M]
S5	RSH1A044-1A	SW OPEN	[M]
S6	RSH1A044-1A	SW OPEN	[M]
S7	RSH1A045-1A	SW TRIGGER	[M]
S8	RSP1A023-A	SW TRV-IN	[M]
S701	RSH1A048-A	SW RESET	[M]
S780	RSH1A049-U	OPEN SWITCH	[M]
S920	EVQ21405R	SW POWER	[M]
S922	EVQ21405R	SW DISPLAY/CHARACTER	[M]
S923	EVQ21405R	SW REC MODE	[M]
S924	EVQ21405R	SW MD & TAPE REC	[M]
S925	EVQ21405R	SW TAPE REC	[M]
S926	EVQ21405R	SW MD REC	[M]
S932	EVQ21405R	SW OPEN/CLOSE	[M]
S933	EVQ21405R	SW EJECT	[M]
S934	EVQ21405R	SW STOP	[M]
S935	EVQ21405R	SW FF	[M]
S936	EVQ21405R	SW REW	[M]
S937	EVQ21405R	SW SELECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
S938	EVQ21405R	SW SOUND EQ	[M]
S939	EVQ21405R	SW CD	[M]
S940	EVQ21405R	SW MD	[M]
S941	EVQ21405R	SW TAPE	[M]
S942	EVQ21405R	SW TUNER	[M]
S950	EVQ21405R	SW DECK OPEN	[M]
S971	RSH1A018-3U	MODE SWITCH	[M]
S972	RSH1A019-2U	SW, LEAF	[M]
S973	RSH1A019-2U	SW, LEAF	[M]
S974	RSH1A019-2U	SW, LEAF	[M]
S975	RSH1A019-2U	SW, LEAF	[M]
		CONNECTORS	
CN1	RJS2A4526T	CONNECTOR	[M]
CN4	RJS2A4830T	CONNECTOR	[M]
CN6	RJU113W10M	10P CONNECTOR	[M]
CN8	RJS2A4506T	6P CONNECTOR	[M]
CN101	RJS2A5630	CONNECTOR	[M]
CN501A	RJP8G9YA	10P CONNECTOR	[M]
CN501B	SJS50878JQ	8P BTB CONNECTOR	[M]
CN502A	RJU057G12	12P BTB CONNECTOR	[M]
CN502B	RJT057G12	12P BTB CONNECTOR	[M]
CN502C	RJT057G12	12P BTB CONNECTOR	[M]
CN502D	RJU057G12	12P BTB CONNECTOR	[M]
CN503A	RJU057G12	12P BTB CONNECTOR	[M]
CN503B	RJT057G12	12P BTB CONNECTOR	[M]
CN503C	RJT057G12	12P BTB CONNECTOR	[M]
CN503D	RJU057G12	12P BTB CONNECTOR	[M]
CN505	RJS1A5206	TO TUNER PCB	[M]
CN603	RJS1A6604T1	4P TAPING CONNECTOR	[M]
CN604	RJP9G4YA	CONNECTOR	[M]
CN701	RJS1A9419	FFC CONNECTOR	[M]
CN701	RJS2A8616	16P FPC CONNECTOR	[M]
CN702	RJS1A9319	19P FFC CONNECTOR	[M]
CN901A	RJS1A9416	16P FFC CONNECTOR	[M]
CN901B	RJS1A9316	16P FFC CP	[M]
CN904	RJS1A5207	7P CONNECTOR	[M]
CN1301	RJS11T7ZA	CONNECTOR	[M]
CN1303	RJS8T7ZA	8P CONNECTOR	[M]
CP6	RJT113W10M	10P CONNECOR	[M]
CP910	RJT029W002-1	SP CONNECTOR	[M]
CP1301	RJS1A6805-J	CONNECTOR	[M]
CP1902	RJT071K09A	CONNECTOR	[M]
CS971	RJU071H09M1	CONNECTOR	[M]
		COILS & TRANSFORMERS	
L1	RLQU100KT-W	CHIP COIL	[M]
L1	RLQZP1R2JT-Y	RF CHOKE COIL	[M]
L2	RLQU101KT-W	CHIP COIL	[M]
L2	RLQZPR47KT-Y	RF CHOKE COIL	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
L3	RLQU101KT-W	CHIP COIL	[M]
L4	RLQU2R2MT-W	CHIP COIL	[M]
L5	RLQU2R2MT-W	CHIP COIL	[M]
L6	RLQU2R2MT-W	CHIP COIL	[M]
L7	RLQU2R2MT-W	CHIP COIL	[M]
L8	RLQU2R2MT-W	CHIP COIL	[M]
L9	RLQU100KT-W	CHIP COIL	[M]
L10	RLQU100KT-W	CHIP COIL	[M]
L11	RLQU100KT-W	CHIP COIL	[M]
L12	RLQU100KT-W	CHIP COIL	[M]
L13	RLQU2R2MT-W	CHIP COIL	[M]
L14	RLQU2R2MT-W	CHIP COIL	[M]
L15	RLQU100KT-W	CHIP COIL	[M]
L16	RLQU2R2MT-W	CHIP COIL	[M]
L17	RLQP1R8KT2-Y	CHIP COIL	[M]
L18	RLQP1R8KT2-Y	CHIP COIL	[M]
L101	RLQBR39KT-1Y	COIL	[M]
L102	RLQBR39KT-1Y	COIL	[M]
L601	RLQZ371	CHOKE COIL	[M] ⚠
L751	RLQB270KT-1Y	COIL	[M]
L752	RLL500050T-Y	RF CHOKE COIL	[M]
L753	RLQB270KT-1Y	COIL	[M]
L754	RLQB270KT-1Y	COIL	[M]
L755	RLQB101KT-1Y	COIL	[M]
L756	RLQB101KT-1Y	COIL	[M]
L760	RLL500050T-Y	RF CHOKE COIL	[M]
L801	RLQB3R3KT-1Y	COIL	[M]
L901	RLL500050T-Y	RF CHOKE COIL	[M]
L902	RLL500050T-Y	RF CHOKE COIL	[M]
L907	RLQA3R3JT1-Y	AXIAL COIL	[M]
L1301	RL08B003-K	BIAS OSC COIL	[M]
L1303	RLQA470JT1-Y	AXIAL COIL	[M]
T601	RTP2W3E001	TRANSFORMER	[M] ⚠
T602	RTP1H3E001	BACK UP TRANSFORMER	[M] ⚠
		COMPONENT COMBINATIO	
Z101	RLA2Z006M-T	ANT COIL BLOCK	[M]
Z102	RLI2Z021M-T	AM IF BLOCK	[M]
Z601	ERZV10V511CS	ZENER	[M]
Z901	RSL5267-E	LCD	[M]
Z902	RCDGP1U26XV	REMOTE SENSOR	[M]
Z971	EXBF7L355SYV	RADA RESISTOR	[M]
		CERAMIC FILTERS	
CF201	RLFFETWN02DD	CERAMIC FILTER	[M]
CF202	RLFFETWN02DD	CERAMIC FILTER	[M]
		RELAY	
RLY601	RSY0040M-0	RELAY	[M] ⚠

Ref. No.	Part No.	Part Name & Description	Remarks
		OSCILLATORS	
X1	RSXY10M0M02T	CRYSTAL OSCILLATOR	[M]
X2	RSXC16M9S03T	CRYSTAL OSCILLATOR	[M]
X102	RLFDFT22DD	CRYSTAL OSCILLATOR	[M]
X103	RSXC7M20S05T	CRYSTAL OSCILLATOR	[M]
X701	RSXC33M8S01	CRYSTAL OSCILLATOR	[M]
X801	RSXZ8M00D01T	CERAMIC RESONATOR	[M]
X802	RSXD32K0C01	CRYSTAL OSCILLATOR	[M]
		FUSES	
F601	XBA2C06TB0	FUSE	[M] ⚠
		FUSE HOLDERS	
FC601	EYF52BC	FUSE HOLDER	[M]
FC602	EYF52BC	FUSE HOLDER	[M]
		FUSE PROTECTOR	
FP501	RSFMB20KT-L	PROTECTOR	[M] ⚠
FP502	RSFMB50KT-L	PROTECTOR	[M] ⚠
FP601	RSFMB50KT-L	PROTECTOR	[M] ⚠
FP602	RSFMB50KT-L	PROTECTOR	[M] ⚠
		THERMISTOR	
TH1	RRSP33J103CW	THERMISTOR	[M]
WH505	RMR0315	6P WIRE HOLDER	[M]
WH603	RJS1A5504	CABLE HOLDER	[M]
WH604	RJS1A5509	9P WIRE HOLDER	[M]
WH904	RMR0316	7P WIRE HOLDER	[M]
WH905A	RMR0317	8P WIRE HOLDER	[M]
WH905B	RMR0317	8P WIRE HOLDER	[M]
		JACKS	
JK101	RJH5404-1J	JK 4P ANT TERMINAL	[M]
JK401	RJH2213N	JK 2P RCA	[M]
JK501	RJH5416-1	JK BLUE/GRAY SPEAKER	[M]
JK502	RJH5415-1	JK RED/BLACK SPEAKER	[M]
JK503	RJJ39T01	JK MIC	[M]
JK601	SJS9236-1	JK AC INLET	[M] ⚠
JK901	RJJ36TA03-C	JK MD LINK	[M]
		EARTH TERMINAL	
E501	SNE1004-2	EARTH TERMINAL	[M]
		WIRES	

Ref. No.	Part No.	Part Name & Description	Remarks
PW1301	RMR0320	HOLDER	[M]
PW1303	RMR0317	8P WIRE HOLDER	[M]
		RESISTORS	
R1	ERDS2TJ104T	100K 1/4W	[M]
R1	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2	ERDS2TJ104T	100K 1/4W	[M]
R2	ERJ3GEYJ102V	1K 1/16W	[M]
R3	ERDS2TJ221T	220 1/4W	[M]
R3	ERJ3GEYJ472V	4.7K 1/16W	[M]
R4	ERDS2TJ104T	100K 1/4W	[M]
R5	ERDS2TJ564T	560K 1/4W	[M]
R5	ERJ3GEYJ1R0V	1 1/16W	[M]
R6	ERDS2TJ391T	390 1/4W	[M]
R6	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7	ERDS2TJ272T	2.7K 1/4W	[M]
R8	ERDS2TJ684T	680K 1/4W	[M]
R8	ERJ3GEYJ271V	270 1/16W	[M]
R9	ERDS2TJ391T	390 1/4W	[M]
R10	ERDS2TJ391T	390 1/4W	[M]
R10	ERJ3GEYJ474V	470K 1/16W	[M]
R11	ERDS2TJ684T	680K 1/4W	[M]
R11	ERJ3GEYJ101V	100 1/16W	[M]
R12	ERJ3GEYJ223V	22K 1/16W	[M]
R13	ERJ6GEYJ3R3V	3.3 1/10W	[M]
R14	ERA3YED103V	10K 3W	[M]
R15	ERJ3GEYJ223V	22K 1/16W	[M]
R16	ERJ3GEYJ104V	100K 1/16W	[M]
R17	ERJ3GEYJ223V	22K 1/16W	[M]
R18	ERJ3GEYJ103V	10K 1/16W	[M]
R19	ERJ3GEYJ102V	1K 1/16W	[M]
R20	ERJ3GEYJ473V	47K 1/16W	[M]
R21	ERJ3GEYJ223V	22K 1/16W	[M]
R22	ERJ3GEY0R00V	0 1/16W	[M]
R23	ERJ3GEYJ272V	2.7K 1/16W	[M]
R24	ERJ3GEYJ473V	47K 1/16W	[M]
R25	ERJ3GEYJ104V	100K 1/16W	[M]
R26	ERJ3GEYJ473V	47K 1/16W	[M]
R28	ERJ3GEYJ473V	47K 1/16W	[M]
R29	ERJ3GEYJ473V	47K 1/16W	[M]
R30	ERJ3GEYJ102V	1K 1/16W	[M]
R31	ERJ3GEYJ223V	22K 1/16W	[M]
R32	ERJ3GEYJ473V	47K 1/16W	[M]
R34	ERJ3GEYJ272V	2.7K 1/16W	[M]
R35	ERJ3GEYJ183V	18K 1/16W	[M]
R36	ERJ3GEYJ273V	27K 1/16W	[M]
R37	ERJ3GEYJ333V	33K 1/16W	[M]
R38	ERJ3GEYJ223V	22K 1/16W	[M]
R42	ERJ3GEYJ102V	1K 1/16W	[M]
R43	ERJ3GEYJ222V	2.2K 1/16W	[M]
R44	ERJ3GEYJ223V	22K 1/16W	[M]
R45	ERJ3GEYJ333V	33K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R46	ERJ3GEYJ222V	2.2K 1/16W	[M]
R47	ERJ3GEYJ473V	47K 1/16W	[M]
R50	ERJ3GEYJ102V	1K 1/16W	[M]
R55	ERJ3GEYJ332V	3.3K 1/16W	[M]
R56	ERJ3GEYJ223V	22K 1/16W	[M]
R58	ERJ3GEYJ682V	6.8K 1/16W	[M]
R59	ERJ3GEYJ683V	68K 1/16W	[M]
R60	ERJ3GEYJ332V	3.3K 1/16W	[M]
R61	ERJ3GEYJ223V	22K 1/16W	[M]
R62	ERJ3GEYJ223V	22K 1/16W	[M]
R63	ERJ3GEYJ103V	10K 1/16W	[M]
R64	ERJ3GEYJ471V	470 1/16W	[M]
R65	ERJ3GEYJ471V	470 1/16W	[M]
R66	ERJ3GEYJ471V	470 1/16W	[M]
R67	ERJ3GEYJ102V	1K 1/16W	[M]
R70	ERJ3GEYJ102V	1K 1/16W	[M]
R71	ERJ3GEYJ220V	22 1/16W	[M]
R72	ERJ3GEYJ220V	22 1/16W	[M]
R73	ERJ3GEYJ393V	39K 1/16W	[M]
R74	ERJ3GEYJ822V	8.2K 1/16W	[M]
R75	ERJ3GEYJ223V	22K 1/16W	[M]
R76	ERJ3GEYJ100V	10 1/16W	[M]
R77	ERJ3GEYJ223V	22K 1/16W	[M]
R78	ERJ3GEYJ102V	1K 1/16W	[M]
R79	ERJ3GEYJ102V	1K 1/16W	[M]
R80	ERJ3GEYJ102V	1K 1/16W	[M]
R81	ERJ3GEYJ223V	22K 1/16W	[M]
R82	ERJ3GEYJ473V	47K 1/16W	[M]
R83	ERJ3GEYJ105V	1M 1/16W	[M]
R84	ERJ3GEYJ153V	15K 1/16W	[M]
R85	ERJ3GEYJ223V	22K 1/16W	[M]
R86	ERJ3GEYJ102V	1K 1/16W	[M]
R87	ERJ3GEYJ102V	1K 1/16W	[M]
R89	ERJ3GEYJ102V	1K 1/16W	[M]
R90	ERJ3GEYJ102V	1K 1/16W	[M]
R93	ERJ3GEYJ102V	1K 1/16W	[M]
R95	ERJ3GEYJ222V	2.2K 1/16W	[M]
R98	ERJ3GEYJ102V	1K 1/16W	[M]
R99	ERJ3GEYJ102V	1K 1/16W	[M]
R100	ERJ3GEYJ473V	47K 1/16W	[M]
R102	ERJ6GEYJ472V	4.7K 1/10W	[M]
R103	ERJ3GEYJ102V	1K 1/16W	[M]
R103	ERJ6GEYJ271V	270 1/10W	[M]
R104	ERJ3GEYJ272V	2.7K 1/16W	[M]
R104	ERJ6GEYJ102V	1K 1/10W	[M]
R105	ERJ3GEYJ272V	2.7K 1/16W	[M]
R105	ERJ6GEYJ471V	470 1/10W	[M]
R106	ERJ6GEYJ474V	470K 1/10W	[M]
R107	ERJ3GEYJ102V	1K 1/16W	[M]
R107	ERJ6GEYJ331V	330 1/10W	[M]
R108	ERJ3GEYJ102V	1K 1/16W	[M]
R109	ERJ3GEYJ102V	1K 1/16W	[M]
R110	ERJ3GEYJ102V	1K 1/16W	[M]
R110	ERJ6GEYJ102V	1K 1/10W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R111	ERJ3GEYJ221V	220 1/16W	[M]
R111	ERJ6GEYJ391V	390 1/10W	[M]
R112	ERJ3GEYJ221V	220 1/16W	[M]
R112	ERJ6GEYJ104V	100K 1/10W	[M]
R113	ERJ6GEYJ103V	10K 1/10W	[M]
R114	ERJ3GEYJ103V	10K 1/16W	[M]
R114	ERJ6GEYJ562V	5.6K 1/10W	[M]
R115	ERJ3GEYJ103V	10K 1/16W	[M]
R115	ERJ6GEYJ561V	560 1/10W	[M]
R116	ERJ3GEYJ101V	100 1/16W	[M]
R116	ERJ6GEYJ102V	1K 1/10W	[M]
R117	ERJ3GEYJ101V	100 1/16W	[M]
R117	ERJ6GEYJ473V	47K 1/10W	[M]
R118	ERJ3GEYJ102V	1K 1/16W	[M]
R118	ERJ6GEYJ332V	3.3K 1/10W	[M]
R119	ERJ3GEYJ101V	100 1/16W	[M]
R119	ERJ6GEYJ472V	4.7K 1/10W	[M]
R120	ERJ3GEYJ101V	100 1/16W	[M]
R120	ERJ6GEYJ473V	47K 1/10W	[M]
R121	ERJ3GEYJ272V	2.7K 1/16W	[M]
R121	ERJ6GEYJ223V	22K 1/10W	[M]
R122	ERJ3GEYJ272V	2.7K 1/16W	[M]
R122	ERJ6GEYJ272V	2.7K 1/10W	[M]
R123	ERJ3GEYJ102V	1K 1/16W	[M]
R123	ERJ6GEYJ683V	68K 1/10W	[M]
R124	ERJ3GEYJ473V	47K 1/16W	[M]
R124	ERJ6GEYJ330V	33 1/10W	[M]
R125	ERJ3GEYJ473V	47K 1/16W	[M]
R125	ERJ6GEYJ471V	470 1/10W	[M]
R126	ERJ6GEYJ152V	1.5K 1/10W	[M]
R127	ERJ6GEYJ471V	470 1/10W	[M]
R128	ERJ6GEYJ820V	82 1/10W	[M]
R129	ERJ6GEYJ273V	27K 1/10W	[M]
R130	ERJ3GEYJ272V	2.7K 1/16W	[M]
R130	ERJ6GEYJ103V	10K 1/10W	[M]
R131	ERJ3GEYJ101V	100 1/16W	[M]
R131	ERJ8GEYJ680V	68 1/8W	[M]
R132	ERJ3GEYJ272V	2.7K 1/16W	[M]
R132	ERJ6GEYJ103V	10K 1/10W	[M]
R133	ERJ6GEYJ102V	1K 1/10W	[M]
R134	ERJ3GEYJ272V	2.7K 1/16W	[M]
R134	ERJ6GEYJ471V	470 1/10W	[M]
R135	ERJ3GEYJ272V	2.7K 1/16W	[M]
R135	ERJ6GEYJ102V	1K 1/10W	[M]
R136	ERJ6GEYJ102V	1K 1/10W	[M]
R137	ERJ3GEYJ103V	10K 1/16W	[M]
R137	ERJ6GEYJ102V	1K 1/10W	[M]
R138	ERJ6GEYJ332V	3.3K 1/10W	[M]
R141	ERJ6GEYJ103V	10K 1/10W	[M]
R142	ERJ6GEYJ103V	10K 1/10W	[M]
R143	ERJ6GEYJ223V	22K 1/10W	[M]
R145	ERJ3GEYJ221V	220 1/16W	[M]
R145	ERJ6GEYJ472V	4.7K 1/10W	[M]
R146	ERJ3GEYJ221V	220 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R146	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R147	**ERJ3GEYJ102V**	**1K 1/16W**	**[M]**
R151	**ERJ6GEYJ820V**	**82 1/10W**	**[M]**
R152	**ERJ6GEY0R00A**	**0 1/10W**	**[M]**
R174	**ERJ3GEYJ103V**	**10K 1/16W**	**[M]**
R401	**ERJ6GEYJ223V**	**22K 1/10W**	**[M]**
R402	**ERJ6GEYJ223V**	**22K 1/10W**	**[M]**
R403	**ERJ6GEYJ182V**	**1.8K 1/10W**	**[M]**
R404	**ERJ6GEYJ182V**	**1.8K 1/10W**	**[M]**
R409	**ERJ6GEYJ332V**	**3.3K 1/10W**	**[M]**
R410	**ERJ6GEYJ332V**	**3.3K 1/10W**	**[M]**
R411	**ERJ6GEYJ392V**	**3.9K 1/10W**	**[M]**
R412	**ERJ6GEYJ392V**	**3.9K 1/10W**	**[M]**
R413	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R414	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R415	**ERJ6GEYJ562V**	**5.6K 1/10W**	**[M]**
R416	**ERJ6GEYJ272V**	**2.7K 1/10W**	**[M]**
R418	**ERJ6GEYJ562V**	**5.6K 1/10W**	**[M]**
R421	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R422	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R423	**ERJ6GEYJ103V**	**10K 1/10W**	**[M]**
R424	**ERJ6GEYJ103V**	**10K 1/10W**	**[M]**
R425	**ERJ6GEYJ562V**	**5.6K 1/10W**	**[M]**
R426	**ERJ6GEYJ562V**	**5.6K 1/10W**	**[M]**
R427	**ERJ6GEYJ392V**	**3.9K 1/10W**	**[M]**
R428	**ERJ6GEYJ392V**	**3.9K 1/10W**	**[M]**
R431	**ERD2FCVG330T**	**33 1/4W**	**[M]**
R434	**ERJ6GEYJ182V**	**1.8K 1/10W**	**[M]**
R435	**ERJ6GEYJ182V**	**1.8K 1/10W**	**[M]**
R436	**ERJ6GEYJ682V**	**6.8K 1/10W**	**[M]**
R437	**ERJ6GEYJ682V**	**6.8K 1/10W**	**[M]**
R438	**ERJ6GEYJ153V**	**15K 1/10W**	**[M]**
R439	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R440	**ERJ6GEYJ183V**	**18K 1/10W**	**[M]**
R441	**ERJ6GEYJ183V**	**18K 1/10W**	**[M]**
R442	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R443	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R445	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R446	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R447	**ERJ6GEYJ473V**	**47K 1/10W**	**[M]**
R448	**ERJ6GEYJ473V**	**47K 1/10W**	**[M]**
R449	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R450	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R451	**ERJ6GEYJ223V**	**22K 1/10W**	**[M]**
R452	**ERJ6GEYJ223V**	**22K 1/10W**	**[M]**
R453	**ERJ6GEYJ104V**	**100K 1/10W**	**[M]**
R454	**ERJ6GEYJ104V**	**100K 1/10W**	**[M]**
R455	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R456	**ERJ6GEYJ472V**	**4.7K 1/10W**	**[M]**
R457	**ERJ6GEYJ153V**	**15K 1/10W**	**[M]**
R458	**ERJ6GEYJ153V**	**15K 1/10W**	**[M]**
R459	**ERJ6GEYJ222V**	**2.2K 1/10W**	**[M]**
R460	**ERJ6GEYJ222V**	**2.2K 1/10W**	**[M]**
R461	**ERJ6GEYJ473V**	**47K 1/10W**	**[M]**

Ref. No.	Part No.	Part Name & Description	Remarks
R462	ERJ6GEYJ473V	47K 1/10W	[M]
R463	ERJ6GEYJ102V	1K 1/10W	[M]
R464	ERJ6GEYJ335V	3.3M 1/10W	[M]
R465	ERJ6GEYJ103V	10K 1/10W	[M]
R466	ERJ6GEYJ105V	1M 1/10W	[M]
R467	ERJ6GEYJ822V	8.2K 1/10W	[M]
R468	ERJ6GEYJ822V	8.2K 1/10W	[M]
R469	ERJ6GEYJ823V	82K 1/10W	[M]
R471	ERJ6GEYJ822V	8.2K 1/10W	[M]
R481	ERJ6GEYJ183V	18K 1/10W	[M]
R482	ERJ6GEYJ183V	18K 1/10W	[M]
R501	ERDS2TJ2R2T	2.2 1/4W	[M]
R502	ERDS2TJ2R2T	2.2 1/4W	[M]
R503	ERDS2TJ2R2T	2.2 1/4W	[M]
R504	ERDS2TJ2R2T	2.2 1/4W	[M]
R509	ERDS2TJ102T	1K 1/4W	[M]
R510	ERDS2TJ472T	4.7K 1/4W	[M]
R513	ERDS2TJ101T	100 1/4W	[M]
R514	ERDS2TJ101T	100 1/4W	[M]
R515	ERDS2TJ682T	6.8K 1/4W	[M]
R516	ERDS2TJ682T	6.8K 1/4W	[M]
R517	ERDS2TJ102T	1K 1/4W	[M]
R518	ERDS2TJ102T	1K 1/4W	[M]
R519	ERDS2TJ1R2T	1.2 1/4W	[M]
R520	ERDS2TJ1R2T	1.2 1/4W	[M]
R521	ERDS2TJ1R0T	1 1/4W	[M]
R522	ERDS2TJ1R0T	1 1/4W	[M]
R535	ERDS2TJ222T	2.2K 1/4W	[M]
R536	ERDS2TJ332T	3.3K 1/4W	[M]
R539	ERDS2TJ333T	33K 1/4W	[M]
R540	ERDS2TJ222T	2.2K 1/4W	[M]
R544	ERDS2TJ154T	150K 1/4W	[M]
R545	ERDS2TJ333T	33K 1/4W	[M]
R564	ERDS2TJ122T	1.2K 1/4W	[M]
R569	ERDS2TJ104T	100K 1/4W	[M]
R592	ERDS2TJ681T	680 1/4W	[M]
R593	ERDS2TJ681T	680 1/4W	[M]
R594	ERDS2TJ820T	82 1/4W	[M]
R595	ERDS2TJ820T	82 1/4W	[M]
R596	ERDS2TJ100T	10 1/4W	[M]
R597	ERDS2TJ100T	10 1/4W	[M]
R601	ERDS1FVJ180T	18 1/2W	[M] ⚠
R605	ERDS2TJ103T	10K 1/4W	[M]
R609	ERDS2TJ151T	150 1/4W	[M]
R610	ERDS2TJ681T	680 1/4W	[M]
R611	ERDS2TJ152T	1.5K 1/4W	[M]
R612	ERDS2TJ472T	4.7K 1/4W	[M]
R613	ERDS2TJ473T	47K 1/4W	[M]
R614	ERDS2TJ473T	47K 1/4W	[M]
R615	ERDS2TJ331T	330 1/4W	[M]
R616	ERDS2TJ223T	22K 1/4W	[M]
R617	ERDS2TJ101T	100 1/4W	[M]
R618	ERDS2TJ151T	150 1/4W	[M]
R621	ERDS2TJ122T	1.2K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R622	ERD2FCVG220T	22 1/4W	[M] ⚠
R623	ERDS2TG152T	1.5K 1/4W	[M]
R624	ERDS2TG152T	1.5K 1/4W	[M]
R627	ERDS2TJ221T	220 1/4W	[M]
R628	ERDS2TJ221T	220 1/4W	[M]
R629	ERDS2TJ561T	560 1/4W	[M]
R630	ERDS2TJ104T	100K 1/4W	[M]
R631	ERDS2TJ104T	100K 1/4W	[M]
R633	ERDS2TJ222T	2.2K 1/4W	[M]
R634	ERDS2TJ1R2T	1.2 1/4W	[M]
R635	ERDS2TJ1R2T	1.2 1/4W	[M]
R636	ERDS2TJ1R2T	1.2 1/4W	[M]
R637	ERDS2TJ122T	1.2K 1/4W	[M]
R638	ERDS2TJ272T	2.7K 1/4W	[M]
R639	ERDS2TJ101T	100 1/4W	[M]
R652	ERDS2TJ103T	10K 1/4W	[M]
R701	ERJ6GEYJ102V	1K 1/10W	[M]
R701	ERJ6GEYJ4R7V	4.7 1/10W	[M]
R702	ERJ6GEYJ101V	100 1/10W	[M]
R702	ERJ6GEYJ103V	10K 1/10W	[M]
R704	ERJ6GEYJ102V	1K 1/10W	[M]
R705	ERJ6GEYJ102V	1K 1/10W	[M]
R705	ERJ6GEYJ154V	150K 1/10W	[M]
R706	ERJ6GEYJ102V	1K 1/10W	[M]
R707	ERJ6GEYJ102V	1K 1/10W	[M]
R707	ERJ6GEYJ393V	39K 1/10W	[M]
R708	ERJ6GEYJ103V	10K 1/10W	[M]
R708	ERJ6GEYJ223V	22K 1/10W	[M]
R709	ERJ6GEYJ472V	4.7K 1/10W	[M]
R709	ERJ6GEYJ683V	68K 1/10W	[M]
R710	ERJ6GEYJ472V	4.7K 1/10W	[M]
R711	ERJ6GEYJ103V	10K 1/10W	[M]
R711	ERJ6GEYJ823V	82K 1/10W	[M]
R712	ERJ6GEYJ103V	10K 1/10W	[M]
R712	ERJ8GEYJ221V	220 1/8W	[M]
R713	ERJ6GEYJ472V	4.7K 1/10W	[M]
R714	ERJ6GEYJ472V	4.7K 1/10W	[M]
R714	ERJ6GEYJ682V	6.8K 1/10W	[M]
R715	ERJ6GEYJ102V	1K 1/10W	[M]
R715	ERJ6GEYJ472V	4.7K 1/10W	[M]
R716	ERJ6GEYJ103V	10K 1/10W	[M]
R717	ERJ6GEYJ102V	1K 1/10W	[M]
R717	ERJ6GEYJ103V	10K 1/10W	[M]
R718	ERJ6GEYJ102V	1K 1/10W	[M]
R718	ERJ6GEYJ103V	10K 1/10W	[M]
R721	ERJ6GEYJ101V	100 1/10W	[M]
R723	ERJ6GEYJ103V	10K 1/10W	[M]
R724	ERJ6GEYJ153V	15K 1/10W	[M]
R725	ERJ6GEYJ681V	680 1/10W	[M]
R727	ERJ6GEYJ272V	2.7K 1/10W	[M]
R728	ERJ6GEYJ222V	2.2K 1/10W	[M]
R729	ERJ6GEYJ272V	2.7K 1/10W	[M]
R731	ERJ6GEYJ103V	10K 1/10W	[M]
R732	ERJ6GEYJ102V	1K 1/10W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R735	ERJ6GEYJ101V	100 1/10W	[M]
R736	ERJ6GEYJ101V	100 1/10W	[M]
R741	ERJ6GEYJ473V	47K 1/10W	[M]
R742	ERJ6GEYJ224V	220K 1/10W	[M]
R744	ERJ6GEYJ124V	120K 1/10W	[M]
R749	ERJ6GEYJ272V	2.7K 1/10W	[M]
R750	ERJ6GEYJ151V	150 1/10W	[M]
R751	ERJ6GEYJ562V	5.6K 1/10W	[M]
R752	ERJ6GEYJ222V	2.2K 1/10W	[M]
R753	ERJ6GEYJ100V	10 1/10W	[M]
R754	ERJ6GEYJ102V	1K 1/10W	[M]
R754	ERJ8GEYJ5R6V	5.6 1/8W	[M]
R756	ERJ6GEYJ103V	10K 1/10W	[M]
R757	ERJ6GEYJ472V	4.7K 1/10W	[M]
R758	ERJ6GEYJ472V	4.7K 1/10W	[M]
R759	ERJ6GEYJ102V	1K 1/10W	[M]
R760	ERJ6GEYJ221V	220 1/10W	[M]
R760	ERJ6GEYJ472V	4.7K 1/10W	[M]
R761	ERJ6GEYJ103V	10K 1/10W	[M]
R763	ERJ6GEYJ103V	10K 1/10W	[M]
R764	ERJ6GEYJ103V	10K 1/10W	[M]
R765	ERJ6GEYJ103V	10K 1/10W	[M]
R766	ERJ6GEYJ102V	1K 1/10W	[M]
R767	ERJ6GEYJ103V	10K 1/10W	[M]
R768	ERD2FCVG100T	10 1/4W	[M]
R808	ERJ6GEYJ473V	47K 1/10W	[M]
R810	ERJ6GEYJ334V	330K 1/10W	[M]
R811	ERJ6GEYJ681V	680 1/10W	[M]
R812	ERJ6GEYJ103V	10K 1/10W	[M]
R813	ERJ6GEYJ223V	22K 1/10W	[M]
R814	ERJ6GEYJ471V	470 1/10W	[M]
R815	ERJ6GEYJ101V	100 1/10W	[M]
R816	ERJ6GEYJ101V	100 1/10W	[M]
R817	ERJ6GEYJ106V	10M 1/10W	[M]
R818	ERJ6GEYJ472V	4.7K 1/10W	[M]
R819	ERJ6GEYJ472V	4.7K 1/10W	[M]
R820	ERJ6GEYJ473V	47K 1/10W	[M]
R821	ERJ6GEYJ473V	47K 1/10W	[M]
R822	ERJ6GEYJ473V	47K 1/10W	[M]
R823	ERJ6GEYJ473V	47K 1/10W	[M]
R826	ERJ6GEYJ101V	100 1/10W	[M]
R827	ERJ6GEYJ473V	47K 1/10W	[M]
R828	ERJ6GEYJ103V	10K 1/10W	[M]
R829	ERJ6GEYJ473V	47K 1/10W	[M]
R830	ERJ6GEYJ472V	4.7K 1/10W	[M]
R831	ERJ6GEYJ221V	220 1/10W	[M]
R832	ERJ6GEYJ223V	22K 1/10W	[M]
R833	ERJ6GEYJ223V	22K 1/10W	[M]
R834	ERJ6GEYJ104V	100K 1/10W	[M]
R835	ERJ6GEYJ472V	4.7K 1/10W	[M]
R836	ERJ6GEYJ101V	100 1/10W	[M]
R837	ERJ6GEYJ472V	4.7K 1/10W	[M]
R838	ERJ6GEYJ103V	10K 1/10W	[M]
R839	ERJ6GEYJ102V	1K 1/10W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R840	ERJ6GEYJ474V	470K 1/10W	[M]
R841	ERJ6GEYJ102V	1K 1/10W	[M]
R842	ERJ6GEYJ102V	1K 1/10W	[M]
R846	ERJ6GEYJ102V	1K 1/10W	[M]
R847	ERJ6GEYJ223V	22K 1/10W	[M]
R848	ERJ6GEYJ153V	15K 1/10W	[M]
R849	ERJ6GEYJ101V	100 1/10W	[M]
R855	ERJ6GEYJ104V	100K 1/10W	[M]
R856	ERJ6GEYJ103V	10K 1/10W	[M]
R857	ERJ6GEYJ102V	1K 1/10W	[M]
R858	ERJ6GEYJ102V	1K 1/10W	[M]
R859	ERJ6GEYJ102V	1K 1/10W	[M]
R860	ERJ6GEYJ102V	1K 1/10W	[M]
R861	ERJ6GEYJ102V	1K 1/10W	[M]
R862	ERJ6GEYJ102V	1K 1/10W	[M]
R863	ERJ6GEYJ473V	47K 1/10W	[M]
R864	ERJ6GEYJ473V	47K 1/10W	[M]
R865	ERJ6GEYJ102V	1K 1/10W	[M]
R866	ERJ6GEYJ473V	47K 1/10W	[M]
R867	ERJ6GEYJ103V	10K 1/10W	[M]
R868	ERJ6GEYJ103V	10K 1/10W	[M]
R869	ERJ6GEYJ473V	47K 1/10W	[M]
R870	ERJ6GEYJ102V	1K 1/10W	[M]
R871	ERJ6GEYJ102V	1K 1/10W	[M]
R872	ERJ6GEYJ102V	1K 1/10W	[M]
R873	ERJ6GEYJ102V	1K 1/10W	[M]
R874	ERJ6GEYJ102V	1K 1/10W	[M]
R875	ERJ6GEYJ102V	1K 1/10W	[M]
R876	ERJ6GEYJ473V	47K 1/10W	[M]
R877	ERJ6GEYJ473V	47K 1/10W	[M]
R878	ERJ6GEYJ102V	1K 1/10W	[M]
R879	ERJ6GEYJ102V	1K 1/10W	[M]
R880	ERJ6GEYJ102V	1K 1/10W	[M]
R881	ERJ6GEYJ224V	220K 1/10W	[M]
R882	ERJ6GEYJ472V	4.7K 1/10W	[M]
R883	ERJ6GEYJ103V	10K 1/10W	[M]
R884	ERJ6GEYJ103V	10K 1/10W	[M]
R885	ERJ6GEYJ102V	1K 1/10W	[M]
R886	ERJ6GEYJ101V	100 1/10W	[M]
R887	ERJ6GEYJ101V	100 1/10W	[M]
R888	ERJ6GEYJ103V	10K 1/10W	[M]
R889	ERJ6GEY0R00V	0 1/10W	[M]
R890	ERJ6GEYJ472V	4.7K 1/10W	[M]
R891	ERJ6GEYJ473V	47K 1/10W	[M]
R892	ERJ6GEYJ473V	47K 1/10W	[M]
R893	ERJ6GEYJ473V	47K 1/10W	[M]
R894	ERJ6GEYJ222V	2.2K 1/10W	[M]
R895	ERJ6GEYJ473V	47K 1/10W	[M]
R896	ERJ6GEYJ103V	10K 1/10W	[M]
R899	ERJ6GEYJ104V	100K 1/10W	[M]
R930	ERDS2TJ102T	1K 1/4W	[M]
R931	ERDS2TJ272T	2.7K 1/4W	[M]
R932	ERDS2TJ222T	2.2K 1/4W	[M]
R933	ERDS2TJ122T	1.2K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R934	ERDS2TJ182T	1.8K 1/4W	[M]
R935	ERDS2TJ101T	100 1/4W	[M]
R936	ERDS2TJ102T	1K 1/4W	[M]
R940	ERDS2TJ101T	100 1/4W	[M]
R941	ERDS2TJ102T	1K 1/4W	[M]
R942	ERDS2TJ122T	1.2K 1/4W	[M]
R943	ERDS2TJ102T	1K 1/4W	[M]
R944	ERDS2TJ182T	1.8K 1/4W	[M]
R945	ERDS2TJ272T	2.7K 1/4W	[M]
R946	ERDS2TJ472T	4.7K 1/4W	[M]
R947	ERDS2TJ682T	6.8K 1/4W	[M]
R948	ERDS2TJ101T	100 1/4W	[M]
R949	ERDS2TJ103T	10K 1/4W	[M]
R950	ERDS2TJ472T	4.7K 1/4W	[M]
R951	ERDS2TJ272T	2.7K 1/4W	[M]
R952	ERDS2TJ472T	4.7K 1/4W	[M]
R953	ERDS2TJ472T	4.7K 1/4W	[M]
R954	ERDS2TJ472T	4.7K 1/4W	[M]
R955	ERDS2TJ103T	10K 1/4W	[M]
R956	ERDS2TJ103T	10K 1/4W	[M]
R957	ERDS2TJ103T	10K 1/4W	[M]
R958	ERDS2TJ103T	10K 1/4W	[M]
R960	ERDS2TJ271T	270 1/4W	[M]
R961	ERDS2TJ331T	330 1/4W	[M]
R962	ERDS2TJ331T	330 1/4W	[M]
R963	ERDS2TJ271T	270 1/4W	[M]
R964	ERDS2TJ682T	6.8K 1/4W	[M]
R966	ERDS2TJ222T	2.2K 1/4W	[M]
R971	ERDS2TJ332T	3.3K 1/4W	[M]
R972	ERDS2TJ101T	100 1/4W	[M]
R972	ERDS2TJ821T	820 1/4W	[M]
R973	ERDS2TJ331T	330 1/4W	[M]
R973	ERDS2TJ393T	39K 1/4W	[M]
R974	ERDS2TJ331T	330 1/4W	[M]
R975	ERDS2TJ331T	330 1/4W	[M]
R976	ERDS2TJ331T	330 1/4W	[M]
R977	ERDS2TJ331T	330 1/4W	[M]
R978	ERDS2TJ331T	330 1/4W	[M]
R980	ERDS2TJ102T	1K 1/4W	[M]
R981	ERDS2TJ821T	820 1/4W	[M]
R982	ERDS2TJ103T	10K 1/4W	[M]
R983	ERDS2TJ223T	22K 1/4W	[M]
R984	ERDS2TJ223T	22K 1/4W	[M]
R985	ERDS2TJ223T	22K 1/4W	[M]
R986	ERDS2TJ472T	4.7K 1/4W	[M]
R987	ERDS2TJ333T	33K 1/4W	[M]
R989	ERDS2TJ472T	4.7K 1/4W	[M]
R990	ERDS2TJ472T	4.7K 1/4W	[M]
R991	ERDS2TJ104T	100K 1/4W	[M]
R992	ERDS2TJ104T	100K 1/4W	[M]
R993	ERDS2TJ472T	4.7K 1/4W	[M]
R995	ERDS2TJ101T	100 1/4W	[M]
R996	ERDS2TJ101T	100 1/4W	[M]
R1101	ERDS2TJ474T	470K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R1102	ERDS2TJ153T	15K 1/4W	[M]
R1103	ERDS2TJ560T	56 1/4W	[M]
R1104	ERDS2TJ681T	680 1/4W	[M]
R1105	ERDS2TJ103T	10K 1/4W	[M]
R1107	ERDS2TJ334T	330K 1/4W	[M]
R1109	ERDS2TJ273T	27K 1/4W	[M]
R1110	ERDS2TJ222T	2.2K 1/4W	[M]
R1111	ERDS2TJ122T	1.2K 1/4W	[M]
R1112	ERDS2TJ470T	47 1/4W	[M]
R1113	ERDS2TJ392T	3.9K 1/4W	[M]
R1114	ERDS2TJ472T	4.7K 1/4W	[M]
R1115	ERDS2TJ474T	470K 1/4W	[M]
R1116	ERDS2TJ152T	1.5K 1/4W	[M]
R1201	ERDS2TJ474T	470K 1/4W	[M]
R1202	ERDS2TJ153T	15K 1/4W	[M]
R1203	ERDS2TJ560T	56 1/4W	[M]
R1204	ERDS2TJ681T	680 1/4W	[M]
R1205	ERDS2TJ103T	10K 1/4W	[M]
R1207	ERDS2TJ334T	330K 1/4W	[M]
R1209	ERDS2TJ273T	27K 1/4W	[M]
R1210	ERDS2TJ222T	2.2K 1/4W	[M]
R1211	ERDS2TJ122T	1.2K 1/4W	[M]
R1212	ERDS2TJ470T	47 1/4W	[M]
R1213	ERDS2TJ392T	3.9K 1/4W	[M]
R1214	ERDS2TJ472T	4.7K 1/4W	[M]
R1215	ERDS2TJ474T	470K 1/4W	[M]
R1216	ERDS2TJ152T	1.5K 1/4W	[M]
R1301	ERDS2TJ474T	470K 1/4W	[M]
R1302	ERDS2TJ104T	100K 1/4W	[M]
R1303	ERDS2TJ103T	10K 1/4W	[M]
R1304	ERDS2TJ152T	1.5K 1/4W	[M]
R1305	ERDS2TJ152T	1.5K 1/4W	[M]
R1307	ERDS2TJ153T	15K 1/4W	[M]
R1308	ERDS2TJ153T	15K 1/4W	[M]
R1309	ERDS2TJ331T	330 1/4W	[M]
R1310	ERDS2TJ103T	10K 1/4W	[M]
R1311	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1312	ERDS2TJ752T	7.5K 1/4W	[M]
R1313	ERDS2TJ472T	4.7K 1/4W	[M]
R1314	ERDS2TJ153T	15K 1/4W	[M]
R1315	ERDS2TJ472T	4.7K 1/4W	[M]
R1316	ERDS2TJ470T	47 1/4W	[M]
R1317	ERDS2TJ103T	10K 1/4W	[M]
R1318	ERDS2TJ682T	6.8K 1/4W	[M]
R1319	ERDS2TJ823T	82K 1/4W	[M]
R1320	ERDS2TJ103T	10K 1/4W	[M]
R1321	ERDS2TJ103T	10K 1/4W	[M]
R1322	ERDS2TJ102T	1K 1/4W	[M]
R1323	ERDS2TJ393T	39K 1/4W	[M]
R1324	ERDS2TJ822T	8.2K 1/4W	[M]
R1325	ERDS2TJ562T	5.6K 1/4W	[M]
R1326	ERDS2TJ682T	6.8K 1/4W	[M]
R1327	ERDS2TJ102T	1K 1/4W	[M]
R1328	ERDS2TJ101T	100 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R1329	ERDS2TJ335T	3.3M 1/4W	[M]
R1330	ERDS2TJ823T	82K 1/4W	[M]
R1331	ERDS2TJ104T	100K 1/4W	[M]
R1332	ERDS2TJ333T	33K 1/4W	[M]
R1333	ERDS2TJ472T	4.7K 1/4W	[M]
R1334	ERDS2TJ393T	39K 1/4W	[M]
R1335	ERDS2TJ682T	6.8K 1/4W	[M]
R1336	ERDS2TJ681T	680 1/4W	[M]
R1337	ERDS2TJ473T	47K 1/4W	[M]
R1338	ERDS2TJ102T	1K 1/4W	[M]
R1339	ERDS2TJ473T	47K 1/4W	[M]
R1340	ERDS2TJ223T	22K 1/4W	[M]
R1342	ERDS2TJ123T	12K 1/4W	[M]
R1352	ERDS2TJ473T	47K 1/4W	[M]
R1354	ERDS2TJ332T	3.3K 1/4W	[M]
R1355	ERDS2TJ222T	2.2K 1/4W	[M]
R1391	ERDS2TJ223T	22K 1/4W	[M]
R1395	ERDS2TJ103T	10K 1/4W	[M]
R1396	ERDS2TJ102T	1K 1/4W	[M]
R1397	ERDS2TJ102T	1K 1/4W	[M]
R1398	ERDS2TJ103T	10K 1/4W	[M]
R1399	ERDS2TJ472T	4.7K 1/4W	[M]
		CAPACITORS	
C1	ECBT1H5R6KC5	5.6P 50V	[M]
C1	ECUV1H221KBV	220P 50V	[M]
C2	RCBS1H102KBY	1000P 50V	[M]
C3	ECBT1H2R2KC5	2.2P 50V	[M]
C4	ECBT1H181KB5	180P 50V	[M]
C4	ECUVNJ105ZFV	10 63V	[M]
C5	ECBT1H5R6KC5	5.6P 50V	[M]
C5	ECUVNA224KBV	0.22 10V	[M]
C6	ECBT1H3R3KC5	3.3P 50V	[M]
C6	ECUVNJ105ZFV	10 63V	[M]
C7	ECBT1H4R7KC5	4.7P 50V	[M]
C7	ECUVNA224KBV	0.22 10V	[M]
C8	ECBT1H3R3KC5	3.3P 50V	[M]
C8	ECUVNA224KBV	0.22 10V	[M]
C9	ECBT1H2R2KC5	2.2P 50V	[M]
C10	ECBT1H180JC5	18P 50V	[M]
C11	ECUV1C223KBV	0.022 16V	[M]
C11	RCBS1H102KBY	1000P 50V	[M]
C12	ECUVNJ474KBV	0.47 63V	[M]
C13	ECUVNC393KBV	0.039 16V	[M]
C14	ECUV1H102KBV	1000P 50V	[M]
C15	ECST0GY106RR	1M 4V	[M]
C16	ECUV1H181KCV	180P 50V	[M]
C17	ECUV1H332KBV	3300P 50V	[M]
C18	ECUV1H562KBV	5600P 50V	[M]
C20	ECUV1C475ZFM	47 16V	[M]
C21	ECUV1H822KBV	8200P 50V	[M]
C22	ECUV1H102KBV	1000P 50V	[M]
C24	ECUV1H102KBV	1000P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C25	ECUVNC393KBV	0.039 16V	[M]
C26	ECUV1H472KBV	4700P 50V	[M]
C28	ECUV1A106ZFM	10 10V	[M]
C29	ECUV1H332KBV	3300P 50V	[M]
C30	ECUV1E123KBV	0.012 25V	[M]
C31	ECUV1H102KBV	1000P 50V	[M]
C32	ECUV1H102KBV	1000P 50V	[M]
C33	ECUV1C475ZFM	47 16V	[M]
C34	ECUV1H102KBV	1000P 50V	[M]
C35	ECUV1H102KBV	1000P 50V	[M]
C37	ECUV1H181KCV	180P 50V	[M]
C40	ECUVNC104ZFV	0.1 16V	[M]
C41	ECEV0JA331P	330 6.3V	[M]
C42	ECST0GY106RR	1M 4V	[M]
C45	ECUV1C475ZFM	47 16V	[M]
C47	ECUVNJ105ZFV	10 63V	[M]
C48	ECUVNC104ZFV	0.1 16V	[M]
C50	ECUVNC104ZFV	0.1 16V	[M]
C51	ECUVNJ105ZFV	10 63V	[M]
C52	ECUVNJ105ZFV	10 63V	[M]
C53	ECUV1H332KBV	3300P 50V	[M]
C55	ECUV1H102KBV	1000P 50V	[M]
C56	ECUV1H102KBV	1000P 50V	[M]
C57	ECUV1H102KBV	1000P 50V	[M]
C58	ECUV1H102KBV	1000P 50V	[M]
C59	ECUVNC823KBV	0.082 16V	[M]
C60	ECEV1CA100SR	10 16V	[M]
C61	ECUVNJ334KBV	0.33 63V	[M]
C62	ECUV1H221KBV	220P 50V	[M]
C64	ECUV1E153KBV	0.015 25V	[M]
C65	ECUVNC104KBV	0.1 16V	[M]
C66	ECUVNC823KBV	0.082 16V	[M]
C67	ECUV1H392KBV	3900P 50V	[M]
C70	ECUV1E123KBV	0.012 25V	[M]
C72	ECUVNC104ZFV	0.1 16V	[M]
C73	ECUVNC104ZFV	0.1 16V	[M]
C74	ECUVNC104ZFV	0.1 16V	[M]
C75	ECUVNC104ZFV	0.1 16V	[M]
C76	ECUVNC104ZFV	0.1 16V	[M]
C79	ECUVNC104ZFV	0.1 16V	[M]
C80	ECUVNC104ZFV	0.1 16V	[M]
C81	ECUV1H560JCV	56P 50V	[M]
C82	ECUV1C473KBV	0.047 16V	[M]
C83	ECUVNC104ZFV	0.1 16V	[M]
C84	ECUVNC104ZFV	0.1 16V	[M]
C85	ECUV1A106ZFM	10 10V	[M]
C87	ECUVNC104ZFV	0.1 16V	[M]
C88	ECUV1H331KBV	330P 50V	[M]
C89	ECUV1H331KBV	330P 50V	[M]
C90	ECUV1H080DCV	8P 50V	[M]
C91	ECUV1H080DCV	8P 50V	[M]
C94	ECUV1C475ZFM	47 16V	[M]
C96	ECUV1C475ZFM	47 16V	[M]
C97	ECUV1C475ZFM	47 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C98	ECUVNC104ZFV	0.1 16V	[M]
C99	ECUV1H102KBV	1000P 50V	[M]
C101	ECUV1A106ZFM	10 10V	[M]
C101	ECUV1H103KBN	0.01 50V	[M]
C102	ECA1CAK470XB	47 16V	[M]
C102	ECUVNC104ZFV	0.1 16V	[M]
C103	ECUV1A106ZFM	10 10V	[M]
C103	ECUV1H103KBN	0.01 50V	[M]
C104	ECUV1H102KBN	1000P 50V	[M]
C106	ECUV1H102KBV	1000P 50V	[M]
C106	ECUV1H103KBN	0.01 50V	[M]
C107	ECUV1E473ZFN	0.047 25V	[M]
C108	ECUV1H080DCN	8P 50V	[M]
C109	ECUV1H102KBN	1000P 50V	[M]
C110	ECUV1H103KBN	0.01 50V	[M]
C110	ECUVNC104ZFV	0.1 16V	[M]
C111	ECEA1EKA4R7B	4.7 25V	[M]
C111	ECUV1C475ZFM	47 16V	[M]
C112	ECEV1CA100SR	10 16V	[M]
C112	ECUV1H103KBN	0.01 50V	[M]
C113	ECUV1H102KBN	1000P 50V	[M]
C114	ECEA1HKA3R3B	3.3 50V	[M]
C114	ECUV1H561KBV	560P 50V	[M]
C115	ECEA1EKA4R7B	4.7 25V	[M]
C115	ECUV1H561KBV	560P 50V	[M]
C116	ECUV1H333KBN	0.033 50V	[M]
C117	ECEV0JA331P	330 6.3V	[M]
C117	ECUV1H103KBN	0.01 50V	[M]
C118	ECUV1H103KBN	0.01 50V	[M]
C118	ECUVNA105KBN	10 10V	[M]
C119	ECQP2A681JZT	680P 100V	[M]
C119	ECUV1H102KBV	1000P 50V	[M]
C120	ECEA1CKA100B	10 16V	[M]
C120	ECUV1H560JCV	56P 50V	[M]
C121	ECEA1HKAR47B	0.47 50V	[M]
C121	ECUV1H102KBV	1000P 50V	[M]
C122	ECEA1HKA010B	1 50V	[M]
C122	ECUVNJ105ZFV	10 63V	[M]
C123	ECEA1HKA010B	1 50V	[M]
C123	ECUVNC104ZFV	0.1 16V	[M]
C124	ECUV1H101KCN	100P 50V	[M]
C125	ECEA1CKA220B	22 16V	[M]
C126	ECUVNC105ZFN	10 16V	[M]
C127	ECEA1CKA220B	22 16V	[M]
C128	ECUVNC104ZFV	0.1 16V	[M]
C129	ECEA0JKA101B	100 6.3V	[M]
C129	ECUV1H101JCV	100P 50V	[M]
C130	ECEA0JKA101B	100 6.3V	[M]
C131	ECUV1H151KCN	150P 50V	[M]
C132	ECUV1H102KBN	1000P 50V	[M]
C133	ECUV1H270JCN	27P 50V	[M]
C133	ECUVNJ105ZFV	10 63V	[M]
C134	ECUV1H270JCN	27P 50V	[M]
C134	ECUV1H331KBV	330P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C136	ECUV1H102KBN	1000P 50V	[M]
C137	ECUV1H332KBN	3300P 50V	[M]
C138	ECEV0JA470SR	47 6.3V	[M]
C138	ECUV1H103KBN	0.01 50V	[M]
C139	ECEA1EKA4R7B	4.7 25V	[M]
C139	ECUVNC104ZFV	0.1 16V	[M]
C140	ECUVNC104ZFV	0.1 16V	[M]
C141	ECA1HAK010XB	1 50V	[M]
C141	ECUVNC104ZFV	0.1 16V	[M]
C142	ECA1HAK010XB	1 50V	[M]
C142	ECUVNC104ZFV	0.1 16V	[M]
C143	ECUV1C475ZFM	47 16V	[M]
C143	ECUV1H103KBN	0.01 50V	[M]
C144	ECUV1E103KBV	0.01 25V	[M]
C144	ECUV1H103KBN	0.01 50V	[M]
C147	ECUV1E103KBV	0.01 25V	[M]
C147	ECUV1H102KBN	1000P 50V	[M]
C148	ECUV1E103KBV	0.01 25V	[M]
C148	ECUV1H103KBN	0.01 50V	[M]
C149	ECUV1E103KBV	0.01 25V	[M]
C149	ECUV1E104ZFN	0.1 25V	[M]
C154	ECUV1H330JCV	33P 50V	[M]
C155	ECUV1H330JCV	33P 50V	[M]
C401	ECUV1H101KCN	100P 50V	[M]
C402	ECUV1H101KCN	100P 50V	[M]
C403	ECUV1H101JCV	100P 50V	[M]
C404	ECUV1H101JCV	100P 50V	[M]
C407	ECFR1C153KR	0.015 16V	[M]
C408	ECFR1C153KR	0.015 16V	[M]
C409	ECA1HAK4R7XB	4.7 50V	[M]
C410	ECA1HAK4R7XB	4.7 50V	[M]
C411	ECUV1H221KBV	220P 50V	[M]
C412	ECUV1H221KBV	220P 50V	[M]
C413	ECFR1C153KR	0.015 16V	[M]
C414	ECFR1C153KR	0.015 16V	[M]
C415	ECA1CAK100XB	10 16V	[M]
C416	ECA1CAK100XB	10 16V	[M]
C417	ECQV1H184JZ3	0.18 50V	[M]
C418	ECQV1H184JZ3	0.18 50V	[M]
C419	ECQV1H184JZ3	0.18 50V	[M]
C420	ECQV1H184JZ3	0.18 50V	[M]
C421	ECUV1H221KBV	220P 50V	[M]
C422	ECUV1H221KBV	220P 50V	[M]
C423	ECUV1H682KBV	6800P 50V	[M]
C424	ECUV1H682KBV	6800P 50V	[M]
C425	ECUV1H102KBN	1000P 50V	[M]
C426	ECUV1H102KBN	1000P 50V	[M]
C428	ECA1AAK470XB	47 10V	[M]
C429	ECA1CAK101XB	100 16V	[M]
C430	ECA1CAK101XB	100 16V	[M]
C431	ECA1HAK2R2XB	2.2 50V	[M]
C432	ECA1HAK2R2XB	2.2 50V	[M]
C433	ECUV1H470JCN	47P 50V	[M]
C434	ECUV1H470JCN	47P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C435	ECUV1H222KBN	2200P 50V	[M]
C436	ECUV1H222KBN	2200P 50V	[M]
C437	ECA1CAK100XB	10 16V	[M]
C438	ECA1CAK100XB	10 16V	[M]
C440	ECA1HAKR47XB	0.47 50V	[M]
C441	ECA1HAKR47XB	0.47 50V	[M]
C442	ECQV1H154JZ3	0.15 50V	[M]
C443	ECUV1H471JCV	470P 50V	[M]
C444	ECFR1C473KR	0.047 16V	[M]
C445	ECA1CAK100XB	10 16V	[M]
C446	ECA1CAK100XB	10 16V	[M]
C447	ECQV1H154JZ3	0.15 50V	[M]
C448	ECQV1H154JZ3	0.15 50V	[M]
C449	ECQV1H154JZ3	0.15 50V	[M]
C450	ECQV1H154JZ3	0.15 50V	[M]
C451	ECUV1H471JCV	470P 50V	[M]
C452	ECUV1H471JCV	470P 50V	[M]
C454	ECA1HAK3R3XB	3.3 50V	[M]
C455	ECUV1H152KBV	1500P 50V	[M]
C456	ECUV1H152KBV	1500P 50V	[M]
C457	ECA1HAK010XB	1 50V	[M]
C459	ECQV1H104JZ3	0.1 50V	[M]
C460	ECQV1H104JZ3	0.1 50V	[M]
C461	ECA1CAK100XB	10 16V	[M]
C462	ECA1CAK100XB	10 16V	[M]
C463	ECA1CAK100XB	10 16V	[M]
C464	ECA1CAK100XB	10 16V	[M]
C465	ECUV1E183KBV	0.018 25V	[M]
C466	ECUV1E183KBV	0.018 25V	[M]
C467	ECFR1C333KR	0.033 16V	[M]
C468	ECFR1C333KR	0.033 16V	[M]
C501	ECQV1H224JZ3	0.22 50V	[M]
C502	ECQV1H224JZ3	0.22 50V	[M]
C503	ECQV1H224JZ3	0.22 50V	[M]
C504	ECQV1H224JZ3	0.22 50V	[M]
C505	ECBT1H471KB5	470P 50V	[M]
C506	ECBT1H471KB5	470P 50V	[M]
C509	ECA1EAK100XB	10 25V	[M]
C510	ECA1EAK100XB	10 25V	[M]
C511	ECBT1H102KB5	1000P 50V	[M]
C512	ECBT1H102KB5	1000P 50V	[M]
C513	ECA1CAK101XB	100 16V	[M]
C514	ECA1CAK101XB	100 16V	[M]
C515	ECA1CAM471XB	470 16V	[M]
C516	ECA1CAM471XB	470 16V	[M]
C519	ECQV1H224JZ3	0.22 50V	[M]
C520	ECQV1H224JZ3	0.22 50V	[M]
C527	ECBT1H104ZF5	0.1 50V	[M]
C535	ECA1EAK100XB	10 25V	[M]
C539	ECEA1CKA220B	22 16V	[M]
C541	ECA1EAK100XB	10 25V	[M]
C542	ECA1CAK101XB	100 16V	[M]
C544	ECQV1H334JZ3	0.33 50V	[M]
C546	ECA1EAM331XB	330 25V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C547	**ECA1CAK101XB**	**100 16V**	**[M]**
C550	**ECBT1H221KB5**	**220P 50V**	**[M]**
C555	**ECA1HAK010XB**	**1 50V**	**[M]**
C557	**ECA1EAK330XB**	**33 25V**	**[M]**
C589	**ECBT1H473ZF5**	**0.047 50V**	**[M]**
C590	**ECBT1H473ZF5**	**0.047 50V**	**[M]**
C591	**ECEA1AKA221Q**	**220 10V**	**[M]**
C592	**ECEA1AKA221Q**	**220 10V**	**[M]**
C603	**ECA1HM470B**	**47 50V**	**[M]**
C604	**ECBT1H103KB5**	**0.01 50V**	**[M]**
C605	**ECA1HAK4R7XB**	**4.7 50V**	**[M]**
C607	**ECA1CAM102XB**	**1000 16V**	**[M]** ⚠
C610	**ECKR1H103ZF5**	**0.01 50V**	**[M]**
C611	**ECKR1H103ZF5**	**0.01 50V**	**[M]** ⚠
C612	**ECKR1H103ZF5**	**0.01 50V**	**[M]**
C613	**ECEA0JKA220B**	**22 6.3V**	**[M]**
C615	**ECA1HAK4R7XB**	**4.7 50V**	**[M]**
C616	**ECA1HAK4R7XB**	**4.7 50V**	**[M]**
C617	**ECA1HAK010XB**	**1 50V**	**[M]**
C618	**ECA1HAK4R7XB**	**4.7 50V**	**[M]**
C619	**ECA1HAK010XB**	**1 50V**	**[M]**
C620	**ECBT1H104KB5**	**0.1 50V**	**[M]**
C621	**ECA1HAK010XB**	**1 50V**	**[M]**
C622	**ECA1CAK101XB**	**100 16V**	**[M]**
C623	**ECBT1C103MS5**	**0.01 16V**	**[M]**
C624	**ECA1VM221B**	**220 35V**	**[M]** ⚠
C625	**ECKR1H223ZF5**	**0.022 50V**	**[M]**
C626	**ECQE2104KF3**	**0.1 250V**	**[M]**
C627	**ECBT1H103ZF5**	**0.01 50V**	**[M]**
C628	**ECA1EAK100XB**	**10 25V**	**[M]**
C629	**ECBT1H103ZF5**	**0.01 50V**	**[M]**
C630	**ECBT1E103ZF5**	**0.01 25V**	**[M]**
C631	**ECBT1E103ZF5**	**0.01 25V**	**[M]**
C632	**ECBT1H103ZF5**	**0.01 50V**	**[M]**
C633	**ECBT1H103ZF5**	**0.01 50V**	**[M]**
C634	**ECA1EAK100XB**	**10 25V**	**[M]**
C635	**ECA1EAM682XE**	**6800 25V**	**[M]** ⚠
C636	**ECA1EAK100XB**	**10 25V**	**[M]**
C637	**ECA1EM222E**	**2200 25V**	**[M]** ⚠
C639	**ECBT1H103KB5**	**0.01 50V**	**[M]**
C701	**ECEA0JKA330I**	**33 6.3V**	**[M]**
C701	**ECUV1H102KBN**	**1000P 50V**	**[M]**
C702	**ECUV1E104MBN**	**0.1 25V**	**[M]**
C703	**ECEA0JKA101I**	**100 6.3V**	**[M]**
C704	**ECUV1E104MBN**	**0.1 25V**	**[M]**
C706	**ECUV1H272KBN**	**2700P 50V**	**[M]**
C707	**ECUV1E273KBN**	**0.027 25V**	**[M]**
C709	**ECUV1H221KBV**	**220P 50V**	**[M]**
C710	**ECUV1H121JCN**	**120P 50V**	**[M]**
C711	**ECUV1E104KBN**	**0.1 25V**	**[M]**
C711	**ECUV1H221KBV**	**220P 50V**	**[M]**
C712	**ECUV1E104KBN**	**0.1 25V**	**[M]**
C713	**ECUV1E104MBN**	**0.1 25V**	**[M]**

Ref. No.	Part No.	Part Name & Description	Remarks
C714	ECEA0JKA101I	100 6.3V	[M]
C715	ECUV1H272KBN	2700P 50V	[M]
C716	ECUV1H821KBN	820P 50V	[M]
C717	ECUV1E104ZFN	0.1 25V	[M]
C718	ECUV1C224KBN	0.22 16V	[M]
C723	ECEA1AKA221I	220 10V	[M]
C724	ECUV1E104MBN	0.1 25V	[M]
C725	ECUV1H102KBN	1000P 50V	[M]
C726	ECUV1H102KBN	1000P 50V	[M]
C727	ECA1HAK010XI	1 50V	[M]
C728	ECA1HAK010XI	1 50V	[M]
C730	ECUV1E104ZFN	0.1 25V	[M]
C731	ECA0JAK221XI	220 6.3V	[M]
C732	ECEA0JKA221I	220 6.3V	[M]
C733	ECUV1E104MBN	0.1 25V	[M]
C734	ECEA1AKA221I	220 10V	[M]
C735	ECUV1E104ZFN	0.1 25V	[M]
C736	ECUV1E104ZFN	0.1 25V	[M]
C737	ECUV1E104ZFN	0.1 25V	[M]
C738	ECUV1H563KBN	0.056 50V	[M]
C739	ECUV1H222KBN	2200P 50V	[M]
C742	ECUV1E273KBN	0.027 25V	[M]
C743	ECUV1E104ZFN	0.1 25V	[M]
C744	ECUV1E822KBN	8200P 25V	[M]
C745	ECUV1E104ZFN	0.1 25V	[M]
C747	ECUV1H181JCN	180P 50V	[M]
C749	ECUV1H222KBN	2200P 50V	[M]
C750	ECUV1E104MBN	0.1 25V	[M]
C751	ECUV1E104MBN	0.1 25V	[M]
C751	ECUV1H680JCV	68P 50V	[M]
C752	ECUV1H152KBN	1500P 50V	[M]
C753	ECUV1H471KBN	470P 50V	[M]
C754	ECUV1H471KBN	470P 50V	[M]
C757	ECA1HAK2R2XB	2.2 50V	[M]
C758	ECA1HAK2R2XB	2.2 50V	[M]
C760	ECUV1C104KBV	0.1 16V	[M]
C760	ECUV1E104MBN	0.1 25V	[M]
C801	ECUV1H180JCN	18P 50V	[M]
C802	ECUV1H180JCN	18P 50V	[M]
C803	ECUV1H680JCN	68P 50V	[M]
C804	ECUV1H680JCN	68P 50V	[M]
C806	ECUV1H560JCV	56P 50V	[M]
C808	ECUV1H560JCV	56P 50V	[M]
C809	ECEA0JKA101B	100 6.3V	[M]
C810	ECUV1H102KBN	1000P 50V	[M]
C811	ECA0JM102B	1000P 6.3V	[M]
C812	ECUV1H102KBN	1000P 50V	[M]
C813	ECUV1H101KCN	100P 50V	[M]
C814	ECUV1H103KBN	0.01 50V	[M]
C815	ECUV1H101KCN	100P 50V	[M]
C816	ECEA1HKA010B	1 50V	[M]
C817	ECEA1HKA010B	1 50V	[M]
C818	ECUV1H101KCN	100P 50V	[M]
C819	ECUV1H103KBN	0.01 50V	[M]

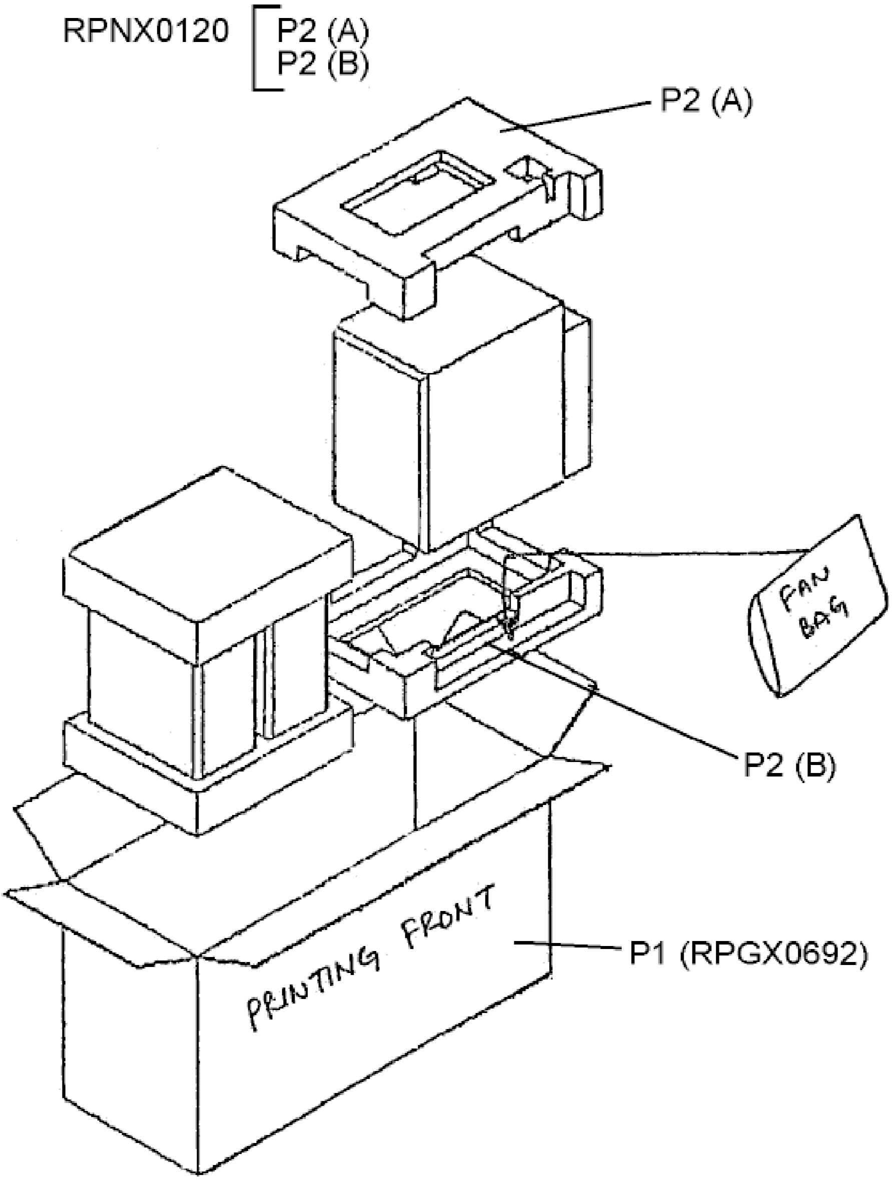
Ref. No.	Part No.	Part Name & Description	Remarks
C820	ECEA1CKA100B	10 16V	[M]
C821	ECUV1H101KCN	100P 50V	[M]
C822	ECUV1H101KCN	100P 50V	[M]
C823	ECUV1H101KCN	100P 50V	[M]
C824	ECUV1H101KCN	100P 50V	[M]
C825	ECUV1H101KCN	100P 50V	[M]
C826	ECEA1AKA220B	22 10V	[M]
C827	ECUV1H103KBN	0.01 50V	[M]
C828	ECUV1H102KBN	1000P 50V	[M]
C829	ECUV1H101KCN	100P 50V	[M]
C831	ECUV1H101KCN	100P 50V	[M]
C832	ECUV1H101KCN	100P 50V	[M]
C833	ECUV1H101KCN	100P 50V	[M]
C834	ECUV1H102KBN	1000P 50V	[M]
C910	ECBT1H102KB5	1000P 50V	[M]
C911	ECBT1H102KB5	1000P 50V	[M]
C912	ECBT1H102KB5	1000P 50V	[M]
C913	ECBT1H102KB5	1000P 50V	[M]
C914	ECBT1H102KB5	1000P 50V	[M]
C915	ECBT1H102KB5	1000P 50V	[M]
C921	ECBT1H104ZF5	0.1 50V	[M]
C922	ECBT1H101KB5	100P 50V	[M]
C923	ECBT1H561KB5	560P 50V	[M]
C924	ECEA1HKA010B	1 50V	[M]
C925	ECEA1HKA010B	1 50V	[M]
C926	ECEA1AKA220B	22 10V	[M]
C927	ECBT1H102KB5	1000P 50V	[M]
C928	ECEA0JKA101B	100 6.3V	[M]
C933	ECBT1H101KB5	100P 50V	[M]
C934	ECBT1H101KB5	100P 50V	[M]
C941	ECBT1H101KB5	100P 50V	[M]
C942	ECBT1H101KB5	100P 50V	[M]
C954	ECBT1H101KB5	100P 50V	[M]
C956	ECBT1H101KB5	100P 50V	[M]
C958	ECEA0JKA470B	47 6.3V	[M]
C1102	ECBT1C152MR5	1500P 16V	[M]
C1103	ECEA0JKA470B	47 6.3V	[M]
C1104	ECBT1H331KB5	330P 50V	[M]
C1105	ECFR1C153KR	0.015 16V	[M]
C1106	ECA1HAK4R7XB	4.7 50V	[M]
C1107	ECA1HAK010XB	1 50V	[M]
C1108	ECEA0JKA470B	47 6.3V	[M]
C1111	ECA1HAK4R7XB	4.7 50V	[M]
C1112	ECBT1H102KB5	1000P 50V	[M]
C1113	ECBT1H102KB5	1000P 50V	[M]
C1114	ECBT1H102KB5	1000P 50V	[M]
C1115	ECBT1H101KB5	100P 50V	[M]
C1116	ECBT1C682KR5	6800P 16V	[M]
C1202	ECBT1C152MR5	1500P 16V	[M]
C1203	ECEA0JKA470B	47 6.3V	[M]
C1204	ECBT1H331KB5	330P 50V	[M]
C1205	ECFR1C153KR	0.015 16V	[M]
C1206	ECA1HAK4R7XB	4.7 50V	[M]
C1207	ECA1HAK010XB	1 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1208	ECEA0JKA470B	47 6.3V	[M]
C1211	ECA1HAK4R7XB	4.7 50V	[M]
C1212	ECBT1H102KB5	1000P 50V	[M]
C1213	ECBT1H102KB5	1000P 50V	[M]
C1214	ECBT1H102KB5	1000P 50V	[M]
C1215	ECBT1H101KB5	100P 50V	[M]
C1216	ECBT1C682KR5	6800P 16V	[M]
C1301	ECEA1HN010SB	1 50V	[M]
C1303	ECBT1C103MS5	0.01 16V	[M]
C1305	ECQP1102JZT	1000P 100V	[M]
C1306	ECQP1472JZT	4700P 100V	[M]
C1307	ECA1HAK010XB	1 50V	[M]
C1308	ECA1CM101B	100 16V	[M]
C1309	ECQV1H473JZ3	0.047 50V	[M]
C1310	ECBT1H102KB5	1000P 50V	[M]
C1311	ECBT1H102KB5	1000P 50V	[M]
C1312	ECBT1C222MR5	2200P 16V	[M]
C1313	ECBT1C222MR5	2200P 16V	[M]
C1314	ECBT1C332MR5	3300P 16V	[M]
C1315	ECA1HM470B	47 50V	[M]
C1316	ECFR1C104KR	0.1 16V	[M]
C1317	ECBT1H470J5	47P 50V	[M]
C1318	ECA1HAK3R3XB	3.3 50V	[M]
C1319	ECEA1AKA221Q	220 10V	[M]
C1320	ECEA1CKA220B	22 16V	[M]
C1321	ECEA1CKA220B	22 16V	[M]
C1322	ECEA0JKA470B	47 6.3V	[M]
C1323	ECBT1C103MS5	0.01 16V	[M]
C1324	ECBT1C472MR5	4700P 16V	[M]
C1326	ECA1EAK100XB	10 25V	[M]
		CHIP JUMPER	
RJ701	ERJ6GEY0R00V	0 1/10W	[M]
RJ702	ERJ8GEY0R00V	0 1/8W	[M]
RJ709	ERJ8GEY0R00V	0 1/8W	[M]
RJ712	ERJ8GEY0R00V	0 1/8W	[M]
RJ721	ERJ6GEY0R00V	0 1/10W	[M]
RJ722	ERJ6GEY0R00V	0 1/10W	[M]
RJ723	ERJ6GEY0R00V	0 1/10W	[M]
RJ724	ERJ6GEY0R00V	0 1/10W	[M]
RJ726	ERJ6GEY0R00V	0 1/10W	[M]
RJ727	ERJ6GEY0R00V	0 1/10W	[M]
RJ728	ERJ6GEY0R00V	0 1/10W	[M]
RJ729	ERJ6GEY0R00V	0 1/10W	[M]
RJ731	ERJ6GEY0R00V	0 1/10W	[M]
RJ732	ERJ6GEY0R00V	0 1/10W	[M]
RJ734	ERJ6GEY0R00V	0 1/10W	[M]
		TEST JUMPER	
TJ701	EYF8CU	TEST JUMPER	[M]

17.6. Packaging Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGX0692	PACKING CASE	[M]
P2	RPNX0120	POLYFOAM	[M]
P3	RPHV0001	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	RAK-SC971WK	REMOTE CONTROL	[M]
A1-1	RXQX0008-W	R/C BATTERY COVER	[M]
A2	RJA0019-2K	AC CORD (SF)	[M] ⚠
A3	RQT5600-B	O/I BOOK (EN)	[M]
A3	RQT5601-K	O/I BOOK (CH)	[M]
A4	RSA0006-J	FM ANTENNA WIRE	[M]
A5	RSA0033A	AM LOOP ANT	[M]
A6	RJP1SG04-H	AC CORD ADAPTOR	[M]

17.7. Packaging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P2 (B)
P2 (A)
FAN BAG
P2 (B)
PRINTING FRONT
P1 (RPGX0692)

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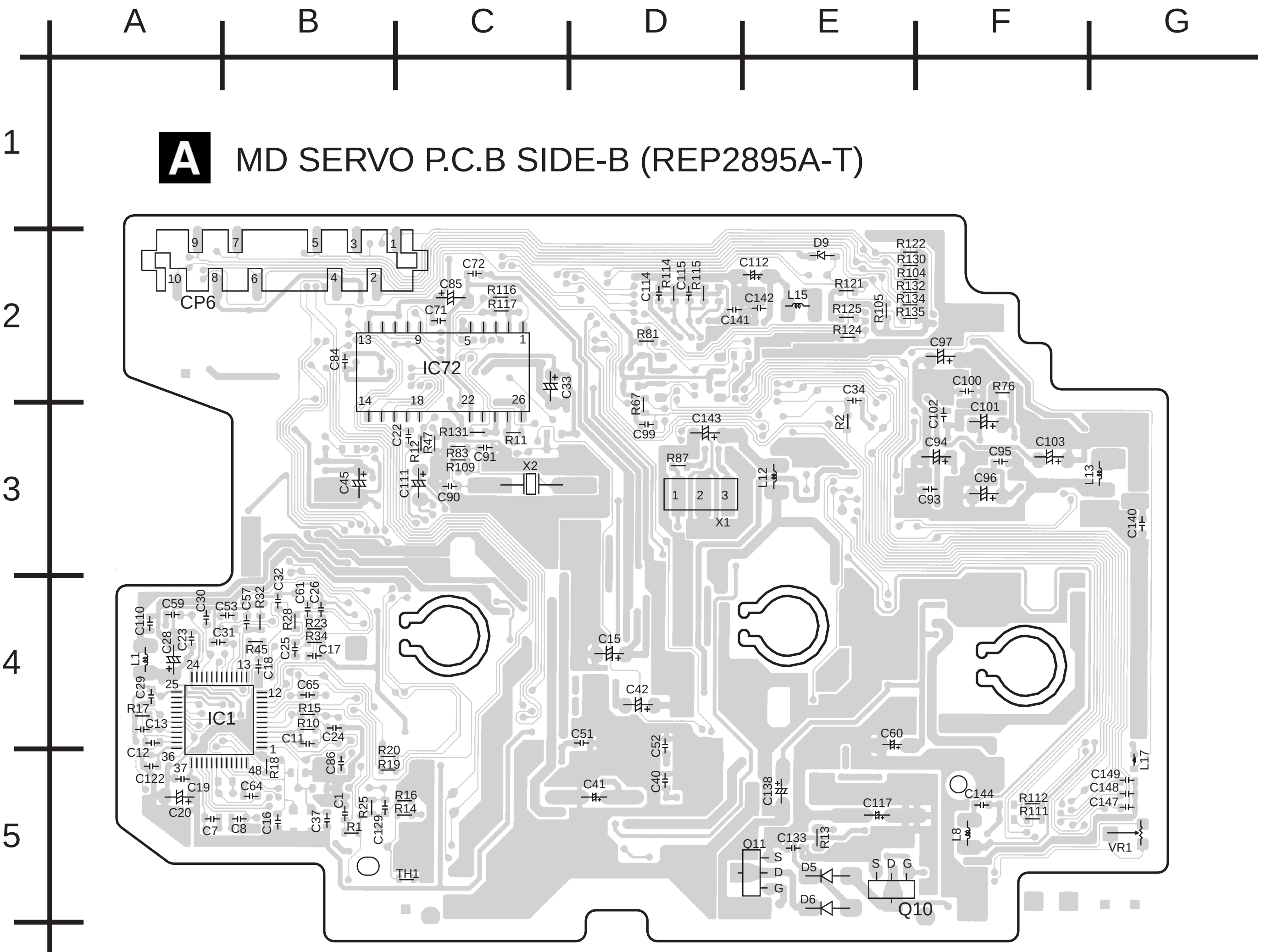
A MD SERVO P.C.B SIDE-B (REP2895A-T)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R14
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R19
TH1
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S
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G
D5
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Q10
S
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G
C144
L8
R112
R111
C149
C148
C147
L17
VR1
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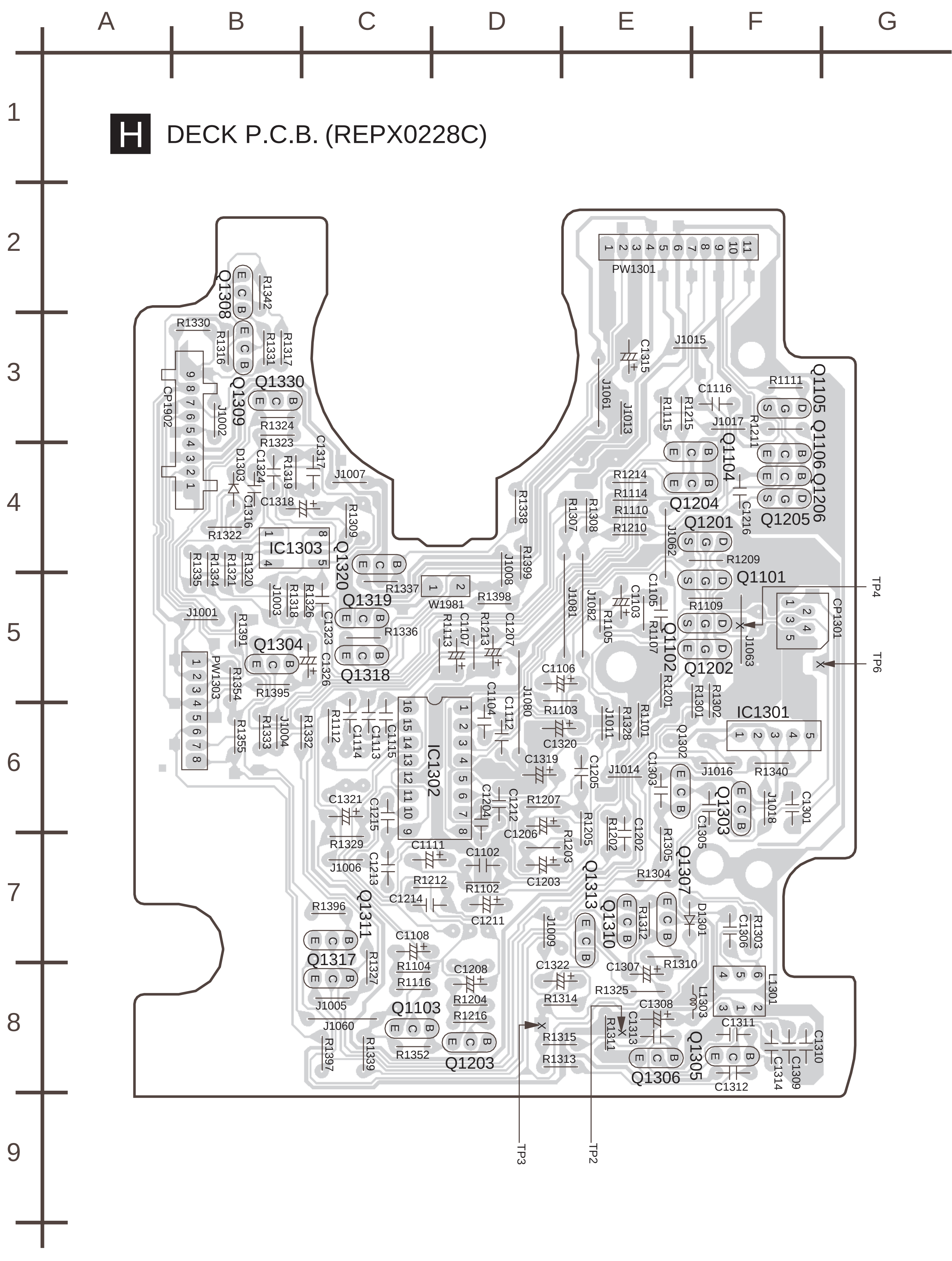
■ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
A MD SERVO P.C.B. (SIDE:B)											
IC1	4A	R13	5E	R111	5F	C17	4B	C53	4B	C103	3F
IC72	2C	R14	5C	R112	5F	C18	4B	C57	4B	C110	4A
Q10	5E	R15	4B	R114	2D	C19	5A	C59	4A	C111	3C
Q11	5E	R16	5C	R115	2D	C20	5A	C60	5E	C112	2E
D5	5E	R17	4A	R116	2C	C22	3C	C61	4B	C114	2D
D6	5E	R18	5B	R117	2C	C23	4A	C64	5B	C115	2D
D9	2E	R19	5B	R121	2E	C24	4B	C65	4B	C117	5E
VR1	5G	R20	5B	R122	2F	C25	4B	C71	2C	C122	5A
TH1	5C	R23	4B	R124	2E	C26	4B	C72	2C	C129	5B
L1	4A	R25	5B	R125	2E	C28	4A	C84	2B	C133	5E
L8	5F	R28	4B	R130	2F	C29	4A	C85	2C	C138	5E
L12	3E	R32	4B	R131	3C	C30	4A	C86	5B	C140	3G
L13	3G	R34	4B	R132	2F	C31	4A	C90	3C	C141	2D
L15	2E	R45	4B	R134	2F	C32	4B	C91	3C	C142	2E
L17	5G	R47	3C	R135	2F	C33	2D	C93	3F	C143	3D
X1	3D	R67	3D	C1	5B	C34	2E	C94	3F	C144	5F
X2	3C	R76	2F	C7	5B	C37	5B	C95	3F	C147	5G
CP6	2A	R81	2D	C8	5B	C40	5D	C96	3F	C148	5G
R1	5B	R83	3C	C11	4B	C41	5D	C97	2F	C149	5G
R2	3E	R87	3D	C12	4A	C42	4D	C99	3D		
R10	4B	R104	2F	C13	4A	C45	3B	C100	3F		
R11	3C	R105	2E	C15	4D	C51	5D	C101	3F		
R12	3C	R109	3C	C16	5B	C52	5D	C102	3F		

H DECK P.C.B. (REPX0228C)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Q1205
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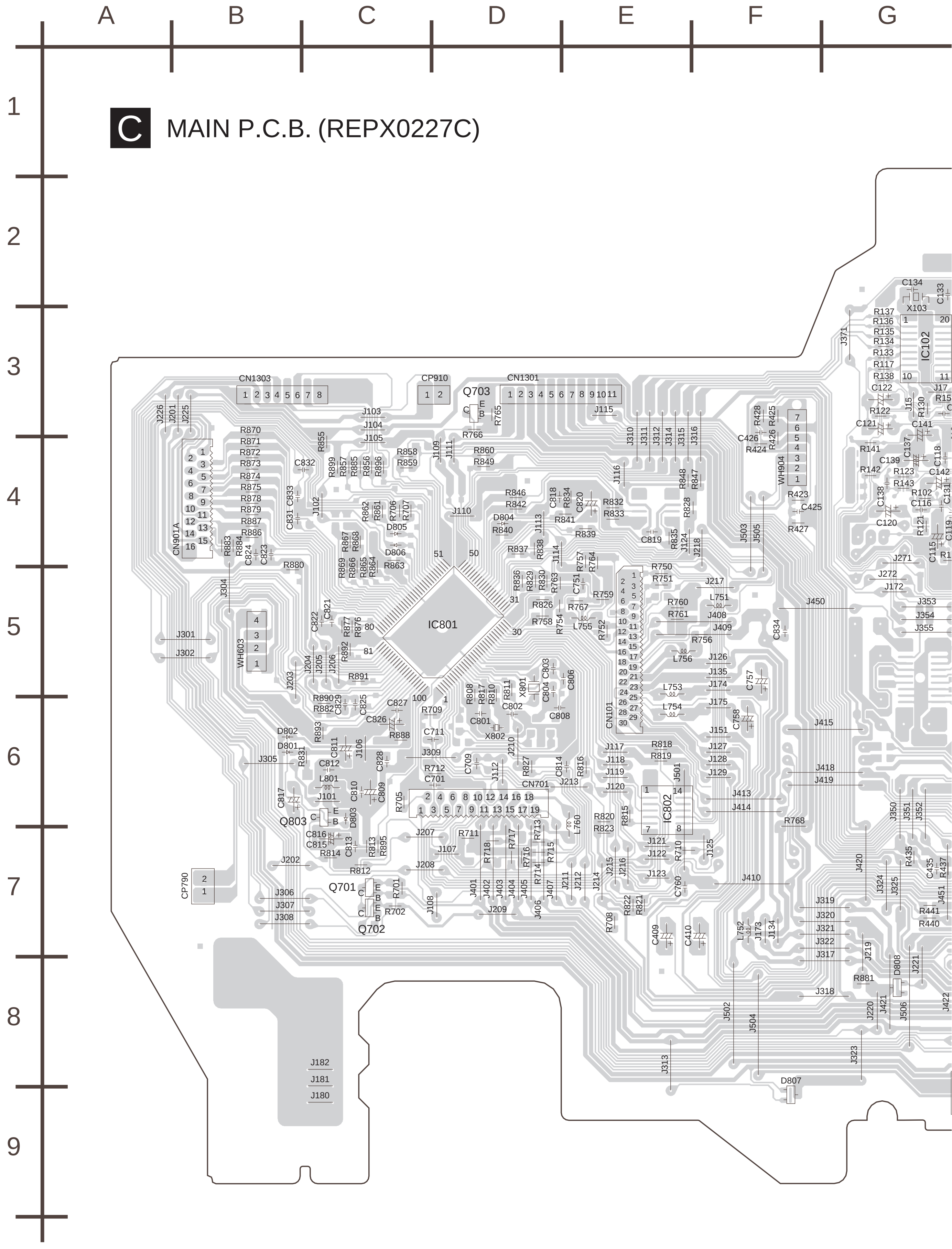
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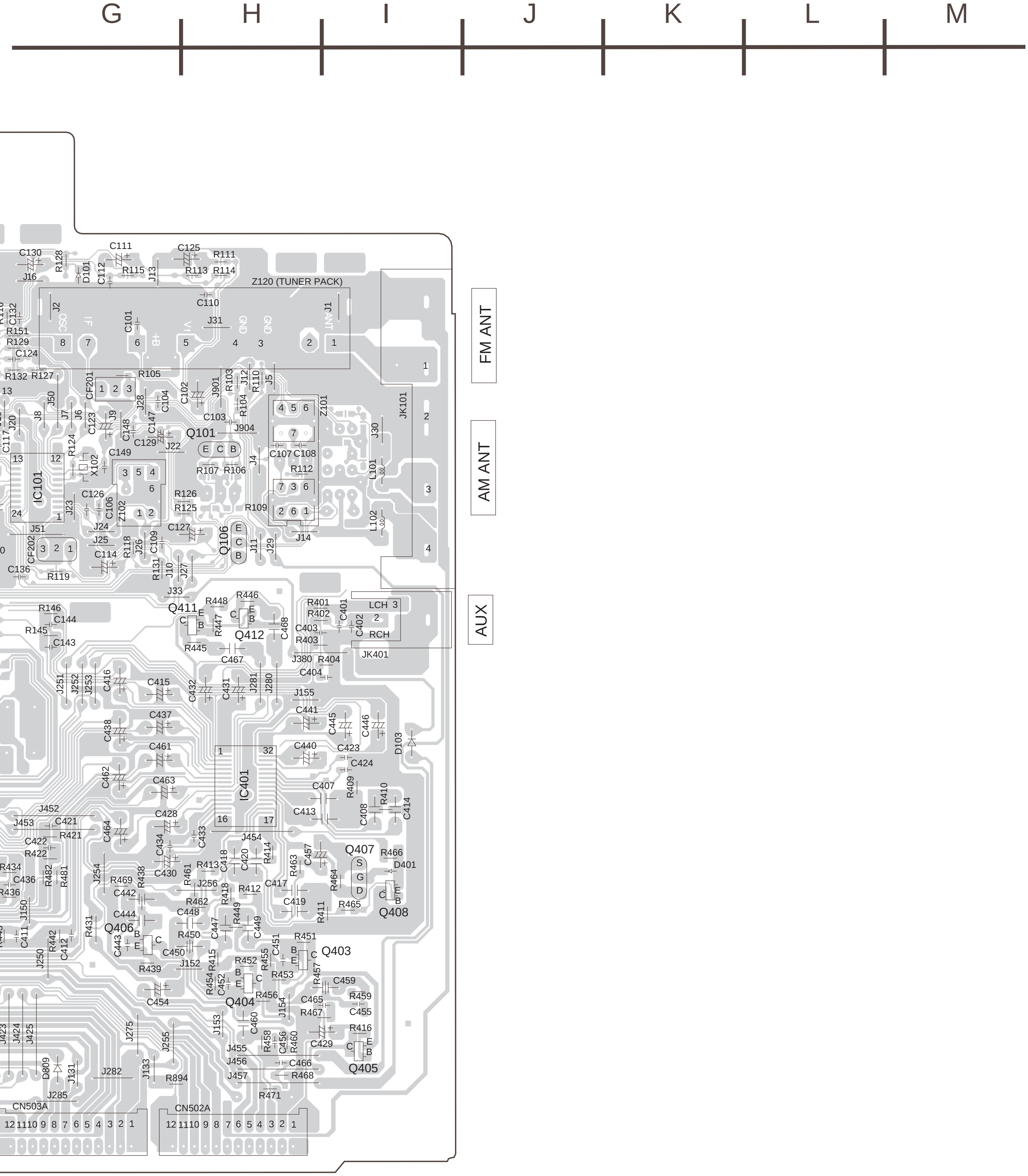
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Z120 (TUNER PACK)
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V+
GND
GND
ANT
FM ANT
AM ANT
AUX
JK101
JK401
LCH
RCH
Z101
Z102
CF201
CF202
X102
IC101
IC401
Q101
Q106
Q403
Q404
Q405
Q406
Q407
Q408
Q411
Q412
L101
L102
D101
D103
D401
D809
CN503A
CN502A
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A B C D E F G

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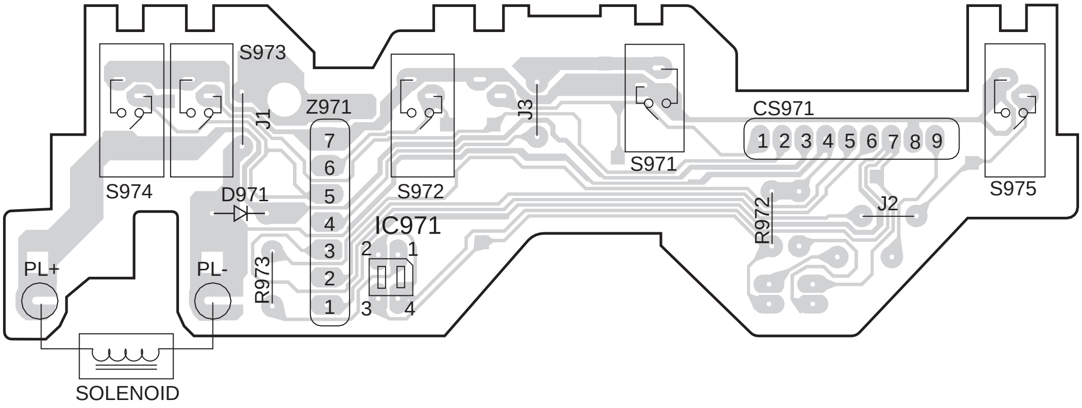
M DECK MECHANISM P.C.B (REPX0108)



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S974
J1
Z971
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IC971
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R973
PL+
PL-
SOLENOID
S972
J3
S971
CS971
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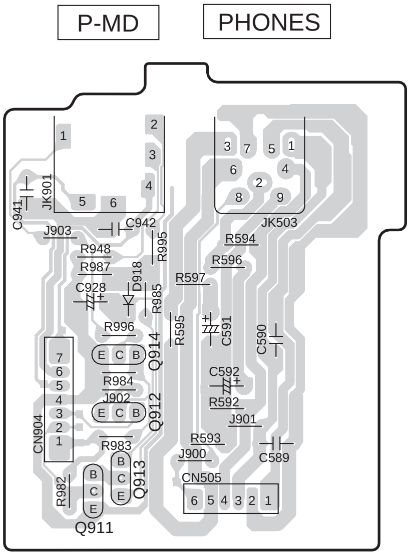
R972
J2
S975

K HEADPHONE P.C.B (REPX0228C)



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R996
Q914
E C B
R984
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R983
Q913
Q911
R982
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JK503
3 7 5 1 6 4 2 8 9
R594
R596
R597
R595
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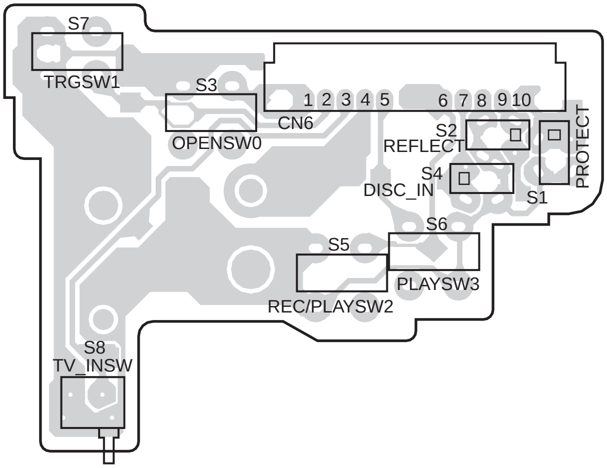
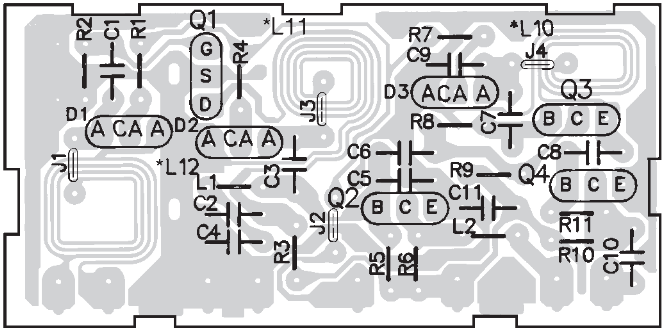
L MD SWITCH P.C.B (REP2575A)



S7
TRGSW1
S3
OPENSW0
CN6
1 2 3 4 5 6 7 8 9 10
S2
REFLECT
PROTECT
S4
DISC_IN
S1
S6
S5
PLAYSW3
REC/PLAYSW2
S8
TV_INSW

N TUNER PACK P.C.B (REP1999B)



R2
C1
R1
Q1
G S D
R4
*L11
R7
*L10
C9
J4
D3
ACA A
Q3
B C E
R8
C7
J3
D1
A CA A
D2
A CA A
C6
C8
J1
*L12
C3
C5
R9
Q4
L1
C11
Q2
B C E
C2
L2
R11
C4
J2
R3
R5
R6
R10
C10

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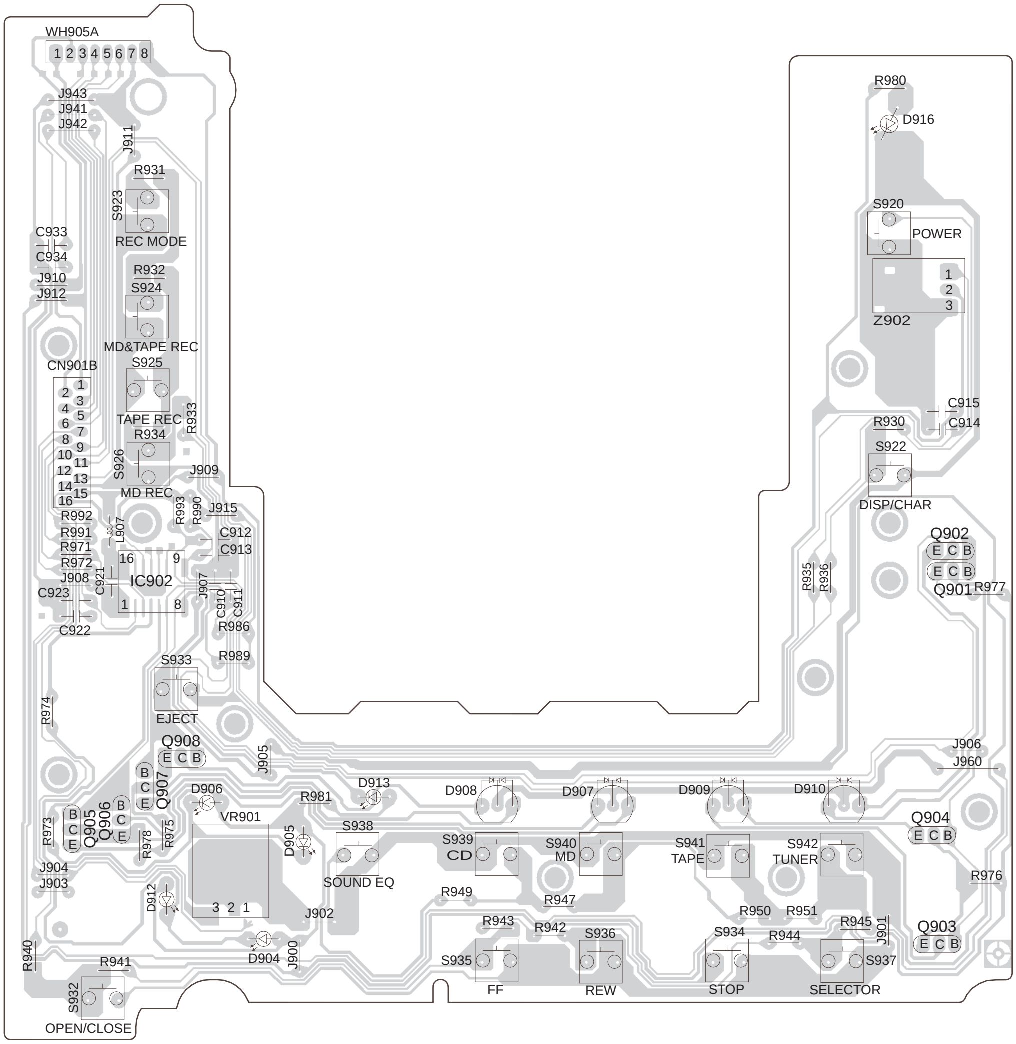
G PANEL P.C.B. (REPX0226A)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J912
R932
S924
MD&TAPE REC
S925
CN901B
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TAPE REC
R933
R934
S926
MD REC
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R992
R991
R971
R972
J908
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Q906
B C E
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VR901
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D912
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R950
R951
S934
R944
R945
J901
R940
R941
D904
J900
S935
FF
REW
STOP
S937
SELECTOR
S932
OPEN/CLOSE
R980
D916
S920
POWER
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2
3
Z902
C915
C914
R930
S922
DISP/CHAR
Q902
E C B
E C B
Q901
R977
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Q903
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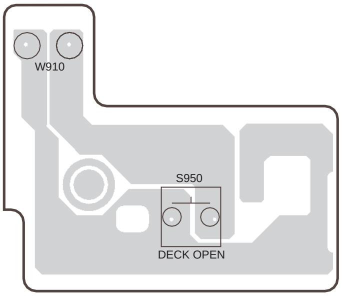
E DECK SWITCH P.C.B. (REPX0228C)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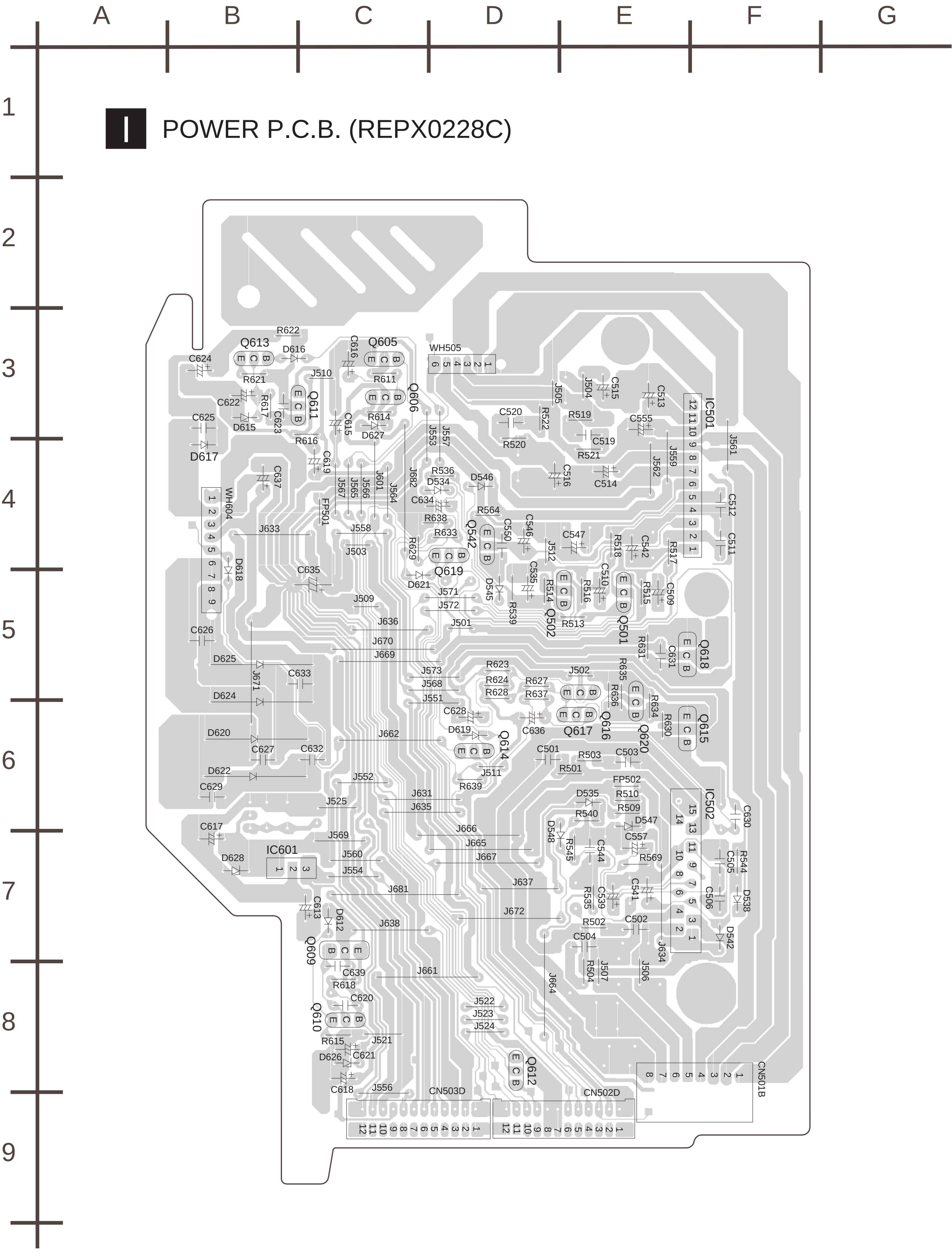
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R614
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C513
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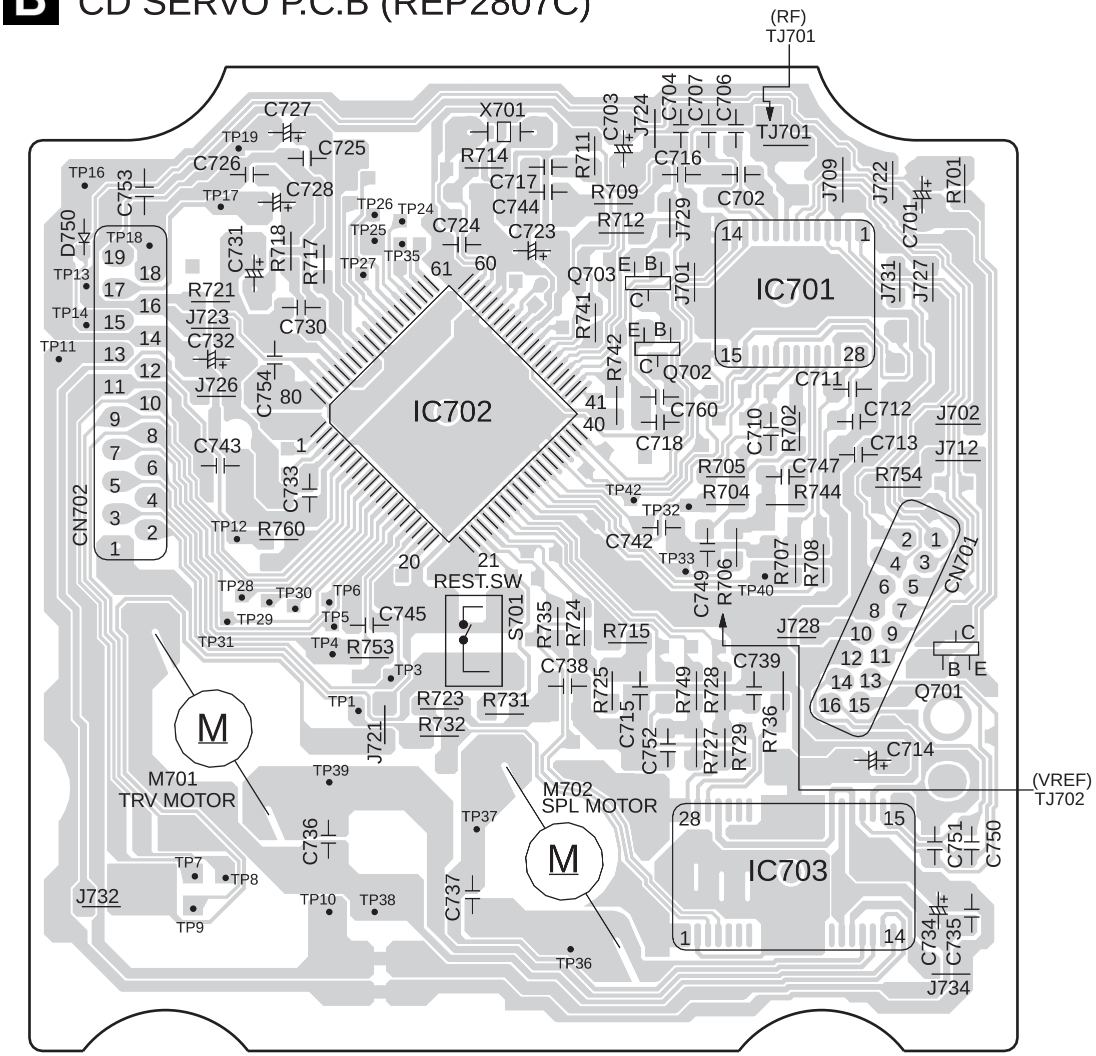
8 7 6 5 4 3 2 1

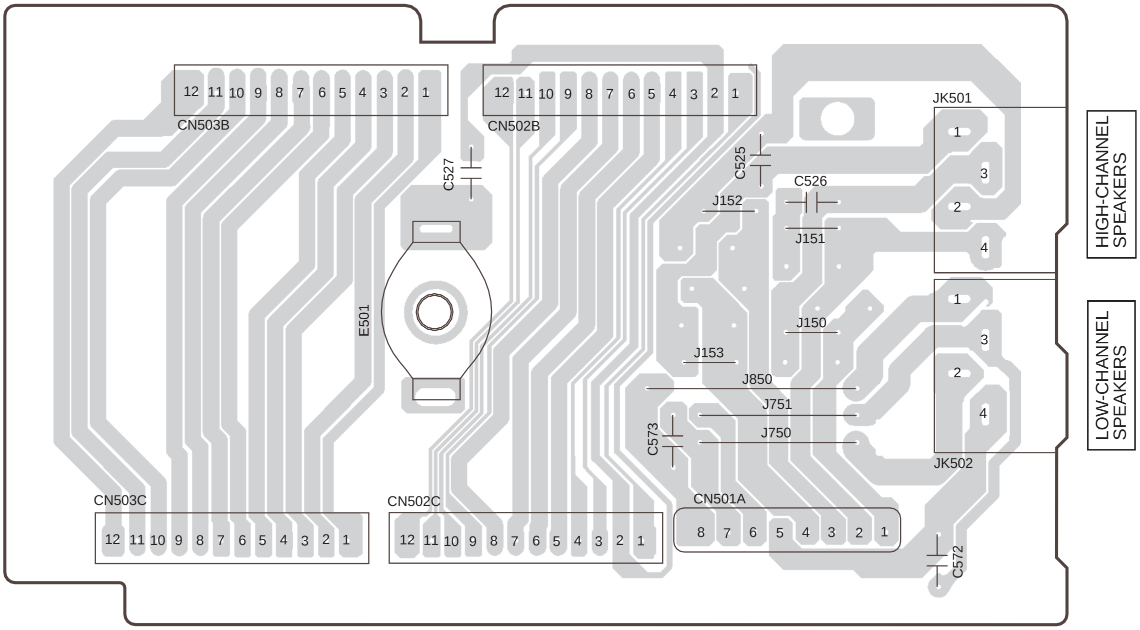
B CD SERVO P.C.B (REP2807C)


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
(RF)
TJ701
(VREF)
TJ702
IC701
IC702
IC703
CN701
CN702
X701
Q701
Q702
Q703
D750
S701
REST.SW
M701
TRV MOTOR
M702
SPL MOTOR
M
C701
C702
C703
C704
C706
C707
C710
C711
C712
C713
C714
C715
C716
C717
C718
C723
C724
C725
C726
C727
C728
C730
C731
C732
C733
C734
C735
C736
C737
C738
C739
C742
C743
C744
C745
C747
C749
C750
C751
C752
C753
C754
C760
R701
R702
R704
R705
R706
R707
R708
R709
R711
R712
R714
R715
R717
R718
R721
R723
R724
R725
R727
R728
R729
R731
R732
R735
R736
R741
R742
R744
R749
R753
R754
R760
J701
J702
J709
J712
J721
J722
J723
J724
J726
J727
J728
J729
J731
J732
J734
TP1
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP16
TP17
TP18
TP19
TP24
TP25
TP26
TP27
TP28
TP29
TP30
TP31
TP32
TP33
TP35
TP36
TP37
TP38
TP39
TP40
TP42
E
B
C

A B C D E F G

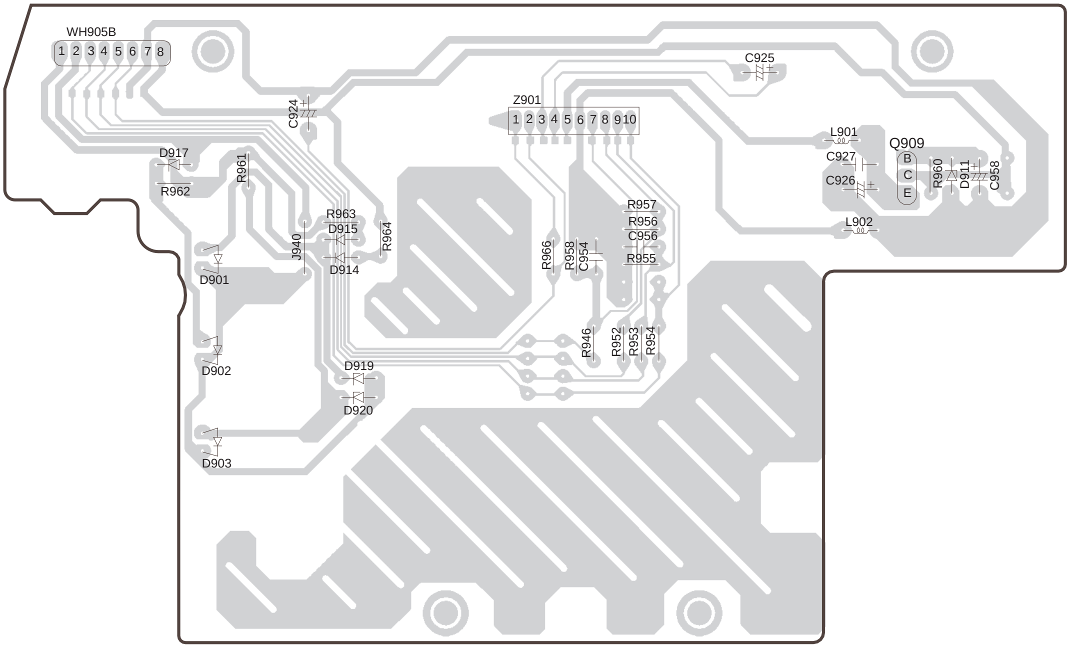
1 2 3 4 5 6 7 8 9

D SPEAKER P.C.B. (REPX0228C)



12 11 10 9 8 7 6 5 4 3 2 1
CN503B
12 11 10 9 8 7 6 5 4 3 2 1
CN502B
C527
E501
C525
C526
J152
J151
JK501
1
3
2
4
HIGH-CHANNEL SPEAKERS
1
3
2
4
LOW-CHANNEL SPEAKERS
J150
J153
J850
J751
J750
C573
JK502
CN503C
12 11 10 9 8 7 6 5 4 3 2 1
CN502C
12 11 10 9 8 7 6 5 4 3 2 1
CN501A
8 7 6 5 4 3 2 1
C572

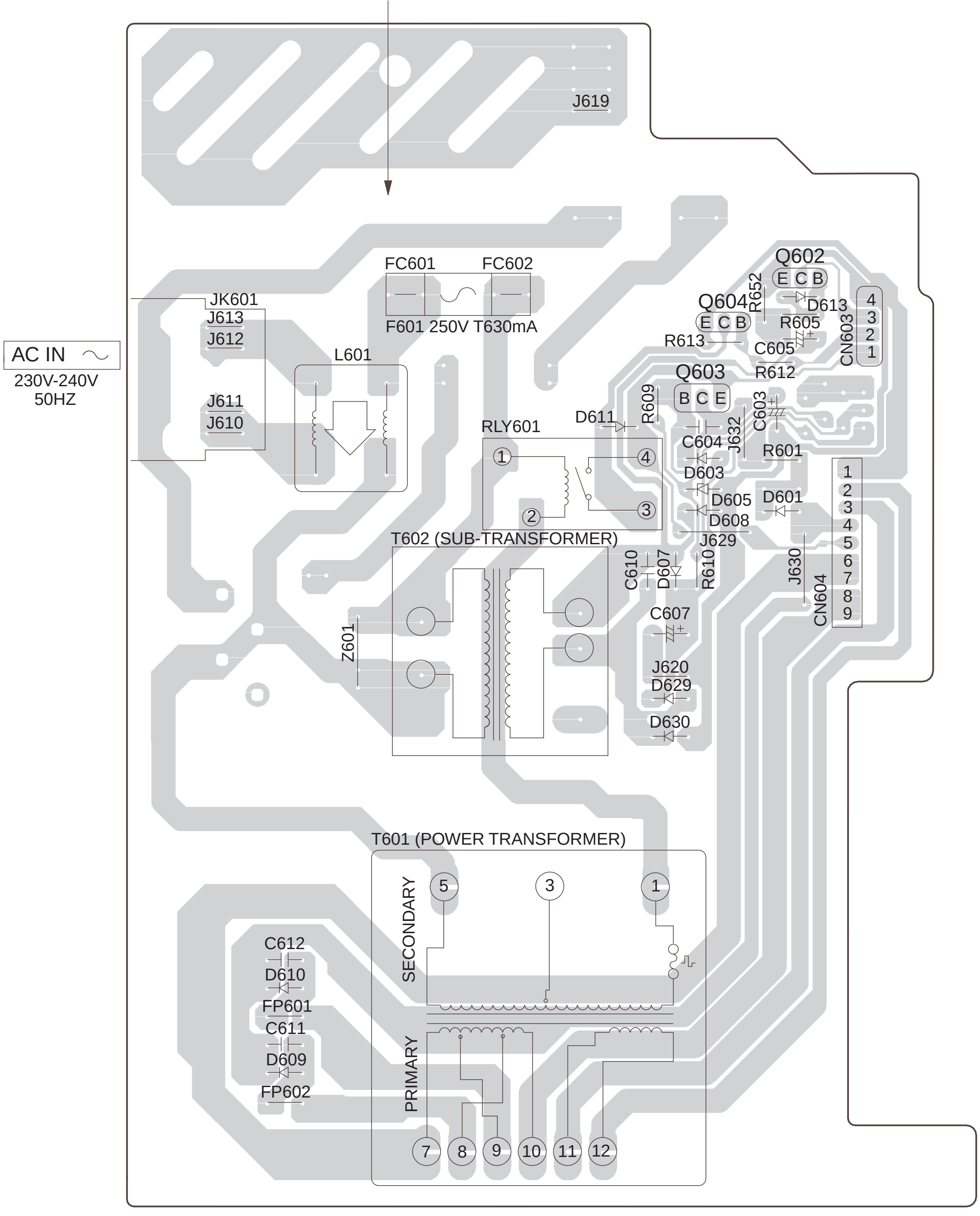
F FL P.C.B. (REPX0226A)



WH905B
1 2 3 4 5 6 7 8
C924
C925
Z901
1 2 3 4 5 6 7 8 9 10
L901
Q909
B
C
E
C927
C926
R960
D911
C958
L902
D917
R962
R961
R963
D915
R964
J940
D914
D901
R966
R958
C954
R957
R956
C956
R955
R946
R952
R953
R954
D902
D919
D920
D903

J TRANSFORMER P.C.B. (REPX0228C)

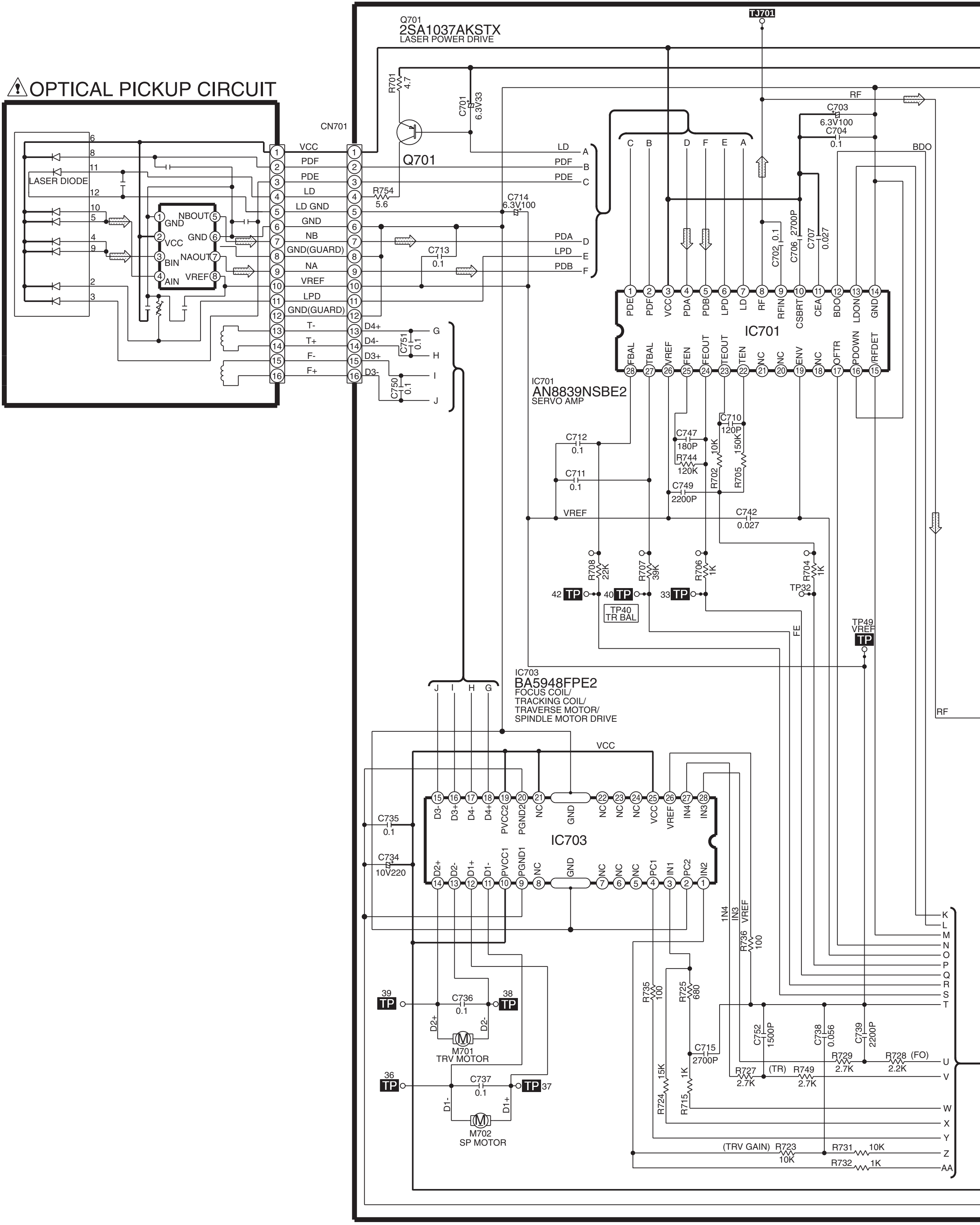
CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS P.C.B


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
J619
FC601
FC602
F601 250V T630mA
JK601
J613
J612
AC IN ~
230V-240V
50HZ
J611
J610
L601
RLY601
① ② ③ ④
D611
R609
Q603
B C E
Q604
E C B
Q602
E C B
R652
D613
R605
R613
C605
R612
CN603
4 3 2 1
C603
J632
C604
R601
D603
D605
D601
D608
J629
CN604
1 2 3 4 5 6 7 8 9
J630
T602 (SUB-TRANSFORMER)
C610
D607
R610
C607
Z601
J620
D629
D630
T601 (POWER TRANSFORMER)
5 3 1
SECONDARY
PRIMARY
7 8 9 10 11 12
C612
D610
FP601
C611
D609
FP602

SCHEMATIC DIAGRAM-7

B CD SERVO CIRCUIT

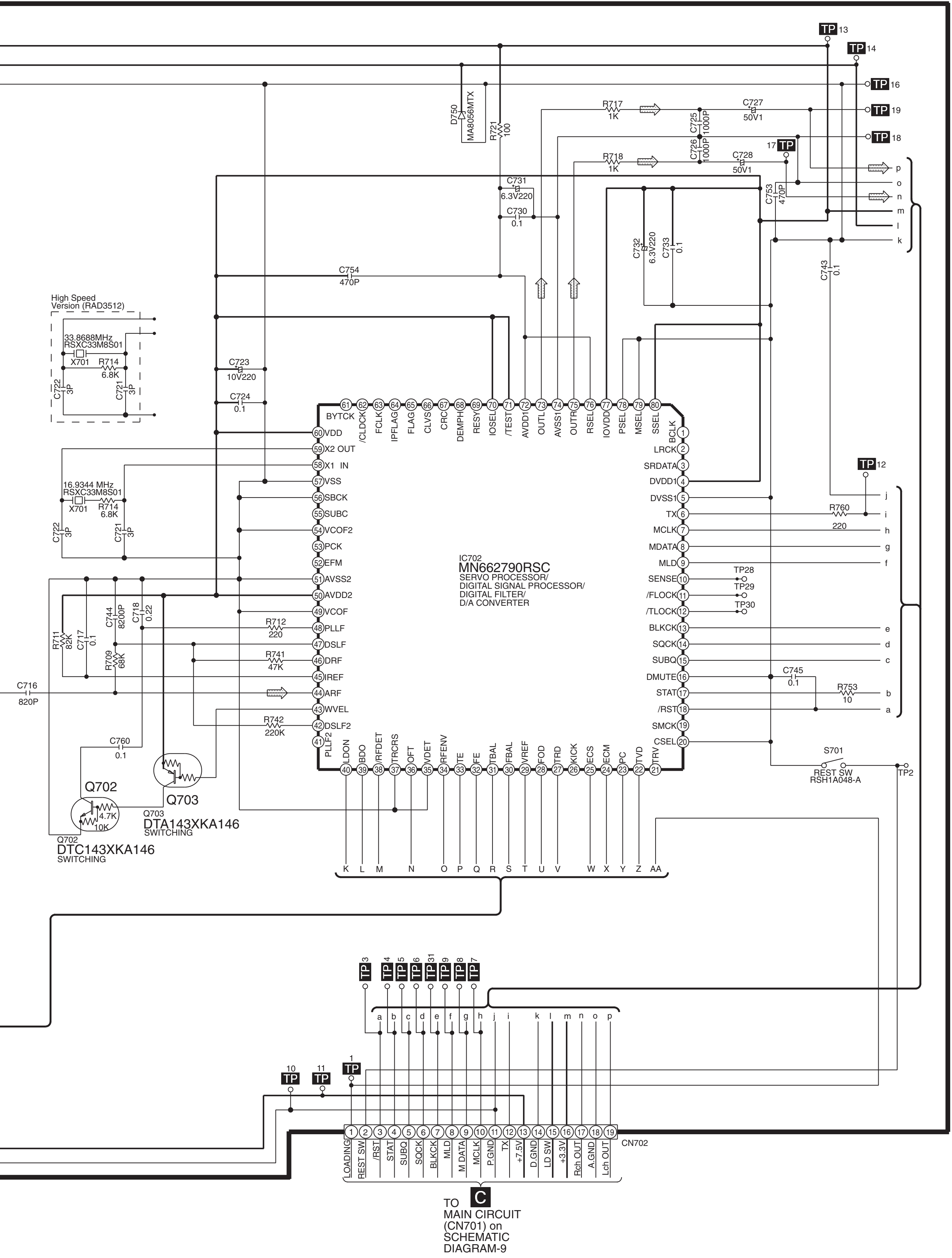
——— : +B signal line ⇨ : CD Signal line



⚠OPTICAL PICKUP CIRCUIT
LASER DIODE
GND NBOUT VCC GND BIN NAOUT AIN VREF
CN701
VCC PDF PDE LD LD GND GND NB GND(GUARD) NA VREF LPD GND(GUARD) T- T+ F- F+
Q701 2SA1037AKSTX LASER POWER DRIVE
R701 4.7
C701 6.3V33
R754 5.6
C714 6.3V100
C713 0.1
C751 0.1
C750 0.1
D4+ D4- D3+ D3-
LD PDF PDE PDA LPD PDB
A B C D E F G H I J
TJ701
RF
C703 6.3V100
C704 0.1
BDO
C702 0.1
C706 2700P
C707 0.027
PDE PDF VCC PDA PDB LPD LD RF RFIN CSBRT CEA BDO LDON GND
FBAL TBAL VREF FEN FEOUT TEOUT TEN NC NC ENV NC OFTR PDOWN /RFDET
IC701
IC701 AN8839NSBE2 SERVO AMP
C712 0.1
C711 0.1
C747 180P
R744 120K
C749 2200P
C710 120P
R702 10K
R705 150K
VREF
C742 0.027
R708 22K
R707 39K
R706 1K
R704 1K
42 TP
40 TP
33 TP
TP32
TP40 TR BAL
FE
TP49 VREF TP
IC703 BA5948FPE2 FOCUS COIL/ TRACKING COIL/ TRAVERSE MOTOR/ SPINDLE MOTOR DRIVE
VCC
D3- D3+ D4- D4+ PVCC2 PGND2 NC GND NC NC NC VCC VREF IN4 IN3
IC703
D2+ D2- D1+ D1- PVCC1 PGND1 NC GND NC NC NC PC1 IN1 PC2 IN2
C735 0.1
C734 10V220
IN4 IN3 VREF
R736 100
R735 100
R725 680
39 TP
38 TP
C736 0.1
D2+ D2-
M701 TRV MOTOR
36 TP
TP 37
C737 0.1
D1- D1+
M702 SP MOTOR
C752 1500P
C738 0.056
C739 2200P
C715 2700P
R729 2.7K
R728 (FO) 2.2K
R727 2.7K
(TR) R749 2.7K
R724 15K
R715 1K
(TRV GAIN) R723 10K
R731 10K
R732 1K
RF
K L M N O P Q R S T U V W X Y Z AA

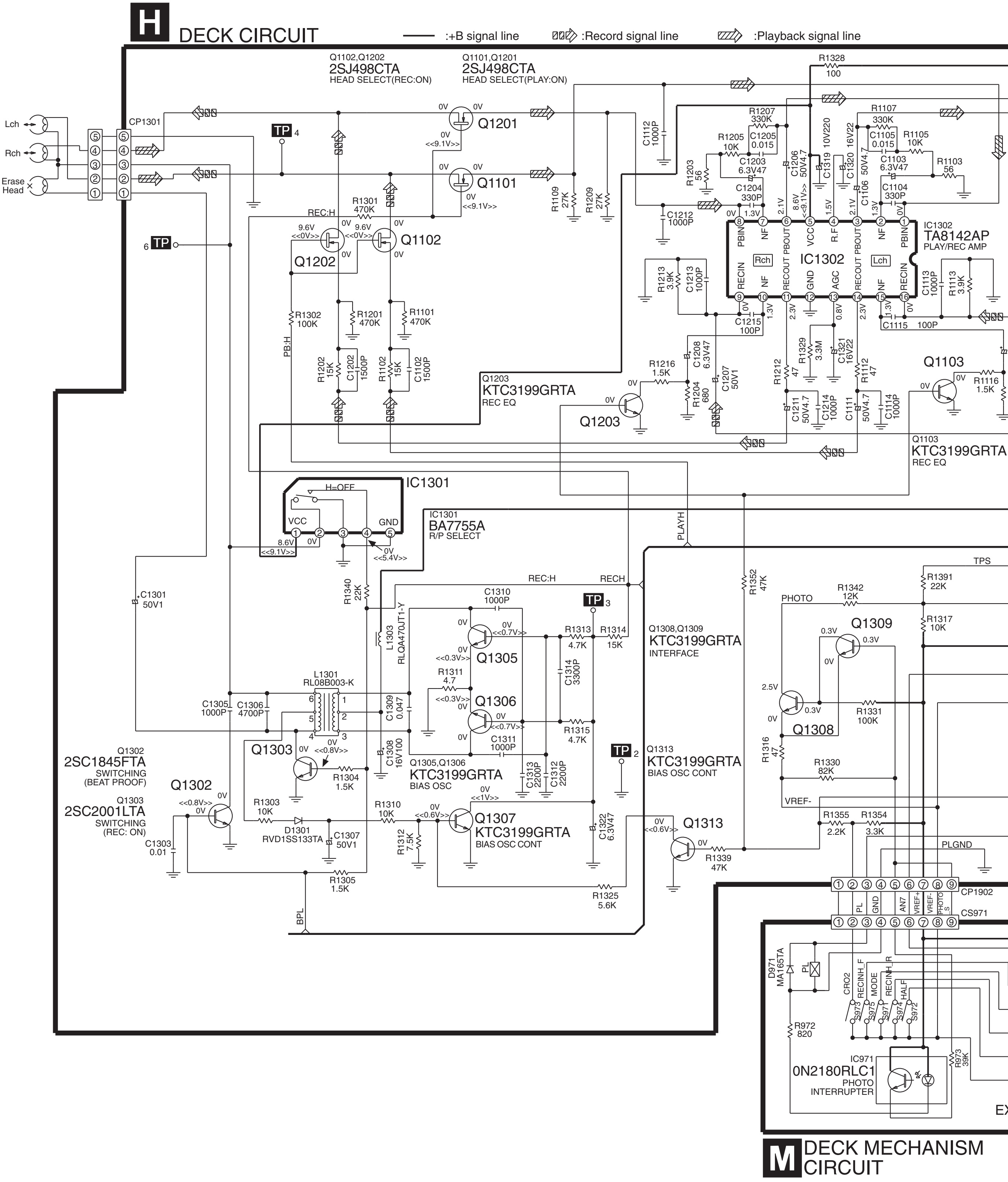
SCHEMATIC DIAGRAM-8

——— : +B signal line ⇨ : CD Signal line



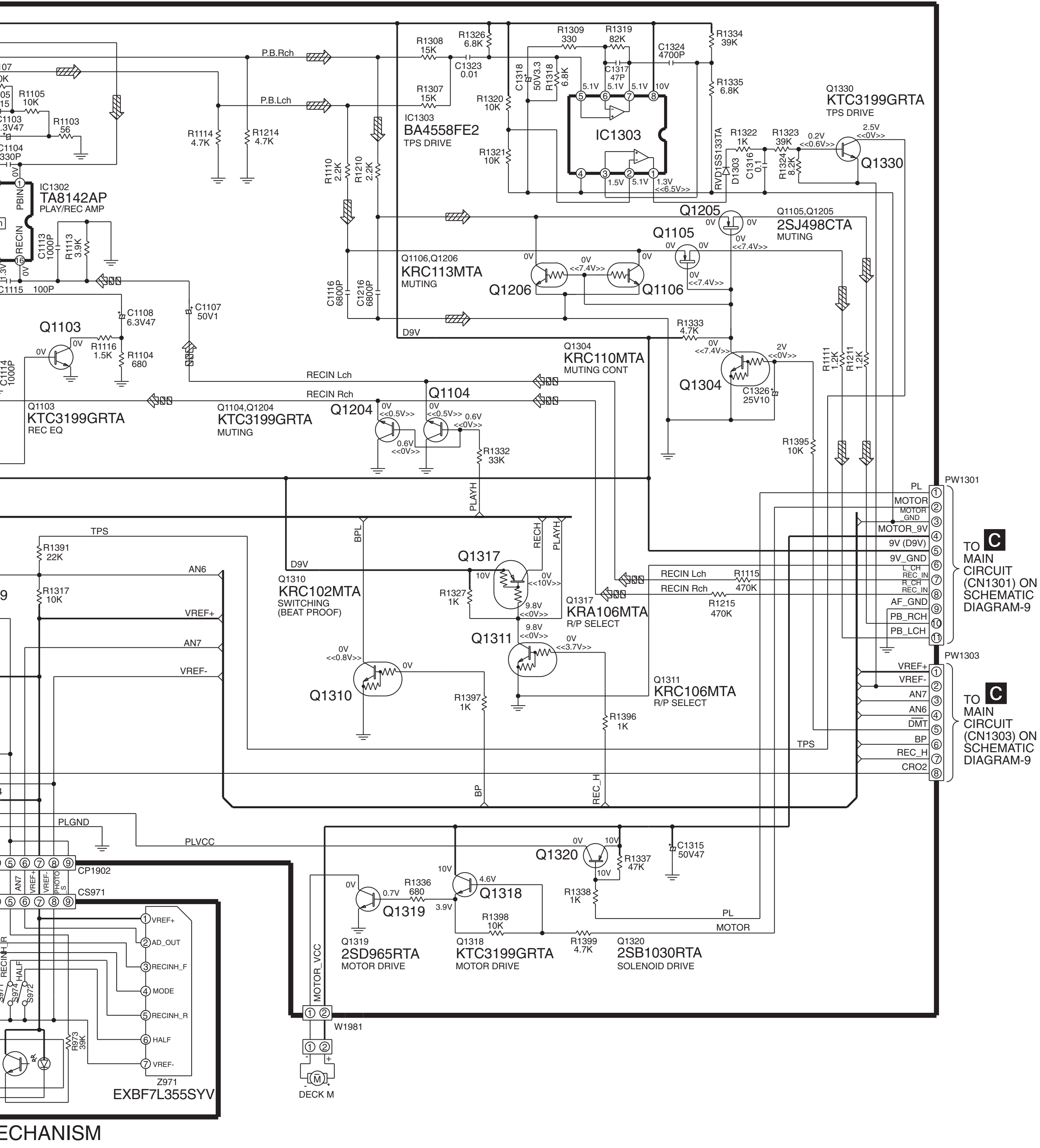
IC702
MN662790RSC
SERVO PROCESSOR/
DIGITAL SIGNAL PROCESSOR/
DIGITAL FILTER/
D/A CONVERTER
BCLK 1
LRCK 2
SRDATA 3
DVDD1 4
DVSS1 5
TX 6
MCLK 7
MDATA 8
MLD 9
SENSE 10
/FLOCK 11
/TLOCK 12
BLKCK 13
SQCK 14
SUBQ 15
DMUTE 16
STAT 17
/RST 18
SMCK 19
CSEL 20
TRV 21
TVD 22
PC 23
ECM 24
ECS 25
KICK 26
TRD 27
FOD 28
VREF 29
FBAL 30
TBAL 31
FE 32
TE 33
RFENV 34
VDET 35
OFT 36
TRCRS 37
/RFDET 38
BDO 39
LDON 40
PLLF2 41
DSLF2 42
WVEL 43
ARF 44
IREF 45
DRF 46
DSLF 47
PLLF 48
VCOF 49
AVDD2 50
AVSS2 51
EFM 52
PCK 53
VCOF2 54
SUBC 55
SBCK 56
VSS 57
X1 IN 58
X2 OUT 59
VDD 60
BYTCK 61
/CLDCK 62
FCLK 63
IPFLAG 64
FLAG 65
CLVS 66
CRC 67
DEMPH 68
RESY 69
IOSEL 70
/TEST 71
AVDD1 72
OUTL 73
AVSS1 74
OUTR 75
RSEL 76
IOVDD 77
PSEL 78
MSEL 79
SSEL 80
D750 MA8056MTX
R721 100
R717 1K
R718 1K
C725 1000P
C726 1000P
C727 50V1
C728 50V1
C731 6.3V220
C730 0.1
C754 470P
C732 6.3V220
C733 0.1
C753 470P
C743 0.1
High Speed Version (RAD3512)
33.8688MHz RSXC33M8S01
X701
R714 6.8K
C722 3P
C721 3P
C723 10V220
C724 0.1
16.9344 MHz RSXC33M8S01
X701
R714 6.8K
C722 3P
C721 3P
R711 82K
C717 0.1
C744 8200P
C718 0.22
R709 68K
R712 220
R741 47K
R742 220K
C716 820P
C760 0.1
Q702
4.7K
10K
Q702 DTC143XKA146 SWITCHING
Q703
Q703 DTA143XKA146 SWITCHING
R760 220
C745 0.1
R753 10
TP28
TP29
TP30
S701 REST SW RSH1A048-A
TP2
TP 12
TP 13
TP 14
TP 16
TP 19
TP 18
17 TP
p o n m l k
j i h g f e d c b a
K L M N O P Q R S T U V W X Y Z AA
TP 3 TP 4 TP 5 TP 6 TP 31 TP 9 TP 8 TP 7
a b c d e f g h j i k l m n o p
10 TP
11 TP
1 TP
CN702
1 LOADING
2 REST SW
3 /RST
4 STAT
5 SUBQ
6 SQCK
7 BLKCK
8 MLD
9 M DATA
10 MCLK
11 P.GND
12 TX
13 +7.5V
14 D.GND
15 LD SW
16 +3.3V
17 Rch OUT
18 A.GND
19 Lch OUT
TO C MAIN CIRCUIT (CN701) on SCHEMATIC DIAGRAM-9

SCHEMATIC DIAGRAM-12


H
DECK CIRCUIT
—— :+B signal line
:Record signal line
:Playback signal line
Lch
Rch
Erase Head
CP1301
TP 4
TP 6
TP 3
TP 2
Q1102,Q1202
2SJ498CTA
HEAD SELECT(REC:ON)
Q1101,Q1201
2SJ498CTA
HEAD SELECT(PLAY:ON)
Q1201
Q1101
Q1102
Q1202
REC:H
PB:H
R1301 470K
R1302 100K
R1201 470K
R1101 470K
R1202 15K
C1202 1500P
R1102 15K
C1102 1500P
<<9.1V>>
9.6V
<<0V>>
C1112 1000P
R1109 27K
R1209 27K
C1212 1000P
R1328 100
R1207 330K
R1205 10K
C1205 0.015
C1203 6.3V47
C1204 330P
R1203 56
C1206 50V4.7
C1319 10V220
C1320 16V22
C1106 50V4.7
R1107 330K
C1105 0.015
R1105 10K
C1103 6.3V47
R1103 56
C1104 330P
IC1302
TA8142AP
PLAY/REC AMP
PBIN
NF
PBOUT
VCC
R.F
RECOUT
RECIN
GND
AGC
Rch
Lch
C1113 1000P
R1113 3.9K
R1213 3.9K
C1213 1000P
C1215 100P
C1115 100P
R1329 3.3M
C1321 16V22
R1212 47
R1112 47
C1211 50V4.7
C1214 1000P
C1111 50V4.7
C1114 1000P
R1216 1.5K
R1204 680
C1208 6.3V47
C1207 50V1
Q1203
KTC3199GRTA
REC EQ
Q1103
R1116 1.5K
Q1103
KTC3199GRTA
REC EQ
IC1301
H=OFF
VCC
GND
8.6V
<<5.4V>>
IC1301
BA7755A
R/P SELECT
PLAYH
RECH
REC:H
C1301 50V1
R1340 22K
L1303 RLQA470JT1-Y
C1310 1000P
R1313 4.7K
R1314 15K
Q1305
R1311 4.7
Q1306
R1315 4.7K
C1311 1000P
C1314 3300P
C1313 2200P
C1312 2200P
C1309 0.047
C1308 16V100
L1301 RL08B003-K
C1305 1000P
C1306 4700P
Q1305,Q1306
KTC3199GRTA
BIAS OSC
Q1303
R1304 1.5K
Q1302
2SC1845FTA
SWITCHING (BEAT PROOF)
Q1303
2SC2001LTA
SWITCHING (REC: ON)
Q1302
C1303 0.01
R1303 10K
D1301 RVD1SS133TA
C1307 50V1
R1305 1.5K
R1310 10K
R1312 7.5K
Q1307
KTC3199GRTA
BIAS OSC CONT
C1322 6.3V47
R1325 5.6K
BPL
Q1308,Q1309
KTC3199GRTA
INTERFACE
Q1313
KTC3199GRTA
BIAS OSC CONT
Q1313
R1339 47K
R1352 47K
TPS
R1391 22K
R1342 12K
PHOTO
R1317 10K
Q1309
Q1308
R1331 100K
R1316 47
R1330 82K
VREF-
R1355 2.2K
R1354 3.3K
PLGND
CP1902
PL
GND
AN7
VREF+
VREF-
PHOTO S
CS971
D971 MA165TA
PL
CRO2
RECINH_F
MODE
RECINH_R
HALF
S973
S975
S971
S974
S972
R972 820
R973 39K
IC971
0N2180RLC1
PHOTO INTERRUPTER
EX
M
DECK MECHANISM CIRCUIT

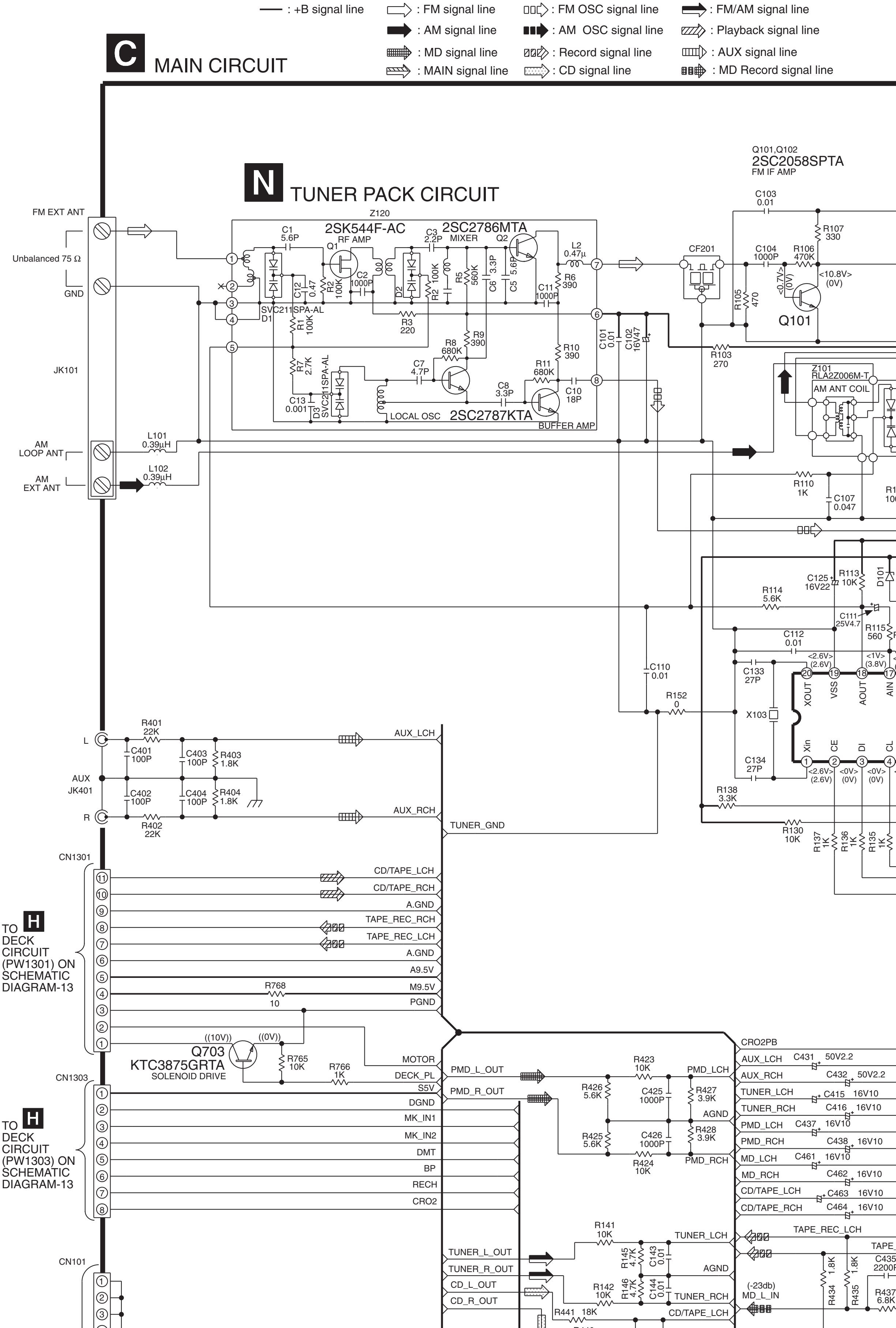
SCHEMATIC DIAGRAM-13

:+B signal line :Record signal line :Playback signal line

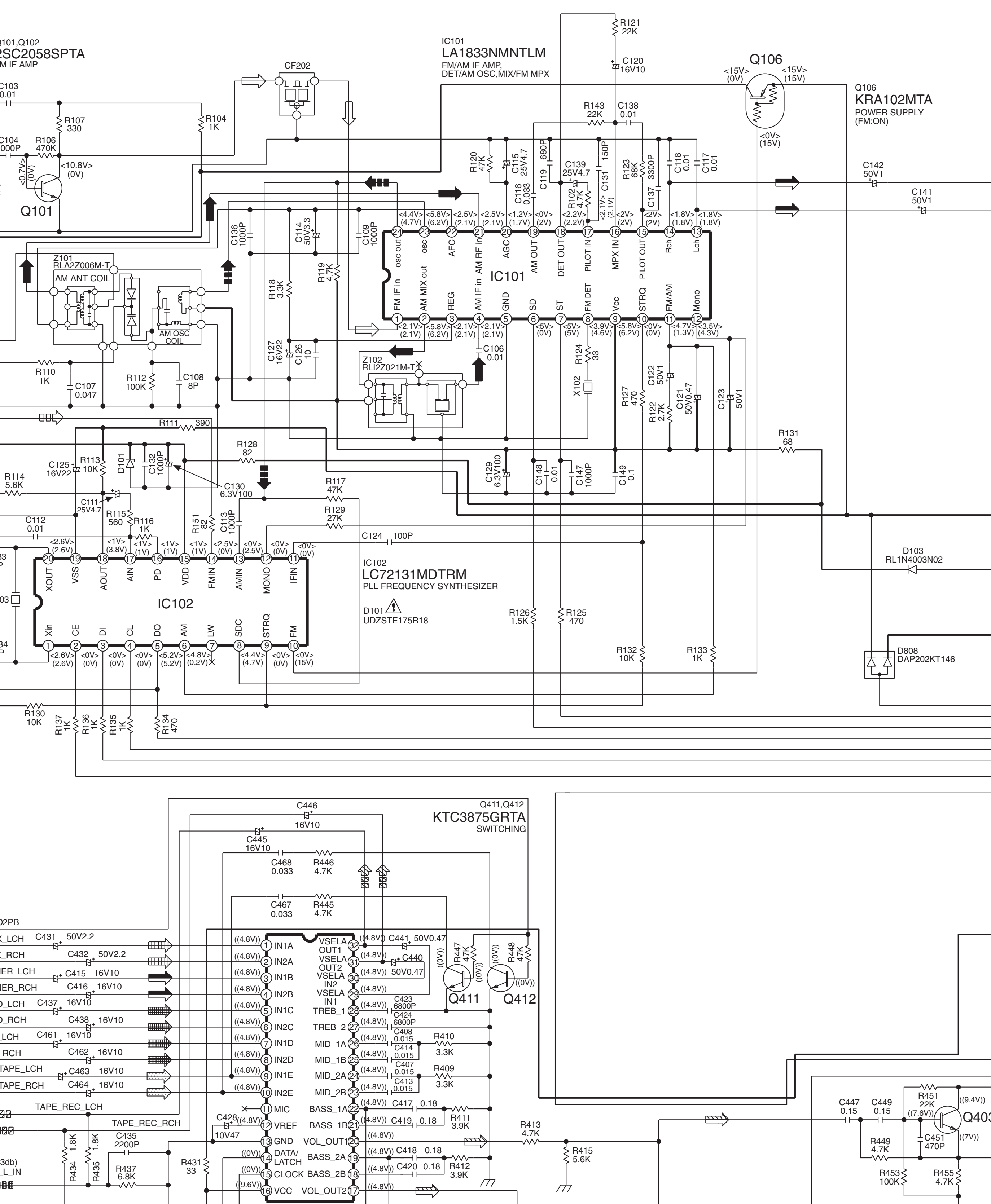


P.B.Rch
P.B.Lch
R1105 10K
R1103 56
C1104 330P
R1114 4.7K
R1214 4.7K
IC1302
TA8142AP
PLAY/REC AMP
PBIN
RECIN
C1113 1000P
R1113 3.9K
C1115 100P
C1108 6.3V47
C1107 50V1
Q1103
R1116 1.5K
R1104 680
C1114 1000P
Q1103
KTC3199GRTA
REC EQ
Q1104,Q1204
KTC3199GRTA
MUTING
RECIN Lch
RECIN Rch
Q1204
Q1104
R1332 33K
PLAYH
R1308 15K
R1326 6.8K
C1323 0.01
R1307 15K
IC1303
BA4558FE2
TPS DRIVE
R1110 2.2K
R1210 2.2K
C1116 6800P
C1216 6800P
R1320 10K
R1321 10K
C1318 50V3.3
R1318 6.8K
R1309 330
R1319 82K
C1317 47P
C1324 4700P
IC1303
R1334 39K
R1335 6.8K
Q1330
KTC3199GRTA
TPS DRIVE
R1322 1K
R1323 39K
R1324 8.2K
C1316 0.1
D1303
RVD1SS133TA
Q1330
Q1205
Q1105,Q1205
2SJ498CTA
MUTING
Q1105
Q1106,Q1206
KRC113MTA
MUTING
Q1206
Q1106
D9V
R1333 4.7K
Q1304
KRC110MTA
MUTING CONT
Q1304
C1326 25V10
R1111 1.2K
R1211 1.2K
R1395 10K
PW1301
PL
MOTOR
MOTOR_GND
MOTOR_9V
9V (D9V)
9V_GND
L_CH REC_IN
R_CH REC_IN
AF_GND
PB_RCH
PB_LCH
TO C MAIN CIRCUIT (CN1301) ON SCHEMATIC DIAGRAM-9
PW1303
VREF+
VREF-
AN7
AN6
DMT
BP
REC_H
CRO2
TO C MAIN CIRCUIT (CN1303) ON SCHEMATIC DIAGRAM-9
TPS
R1391 22K
AN6
R1317 10K
VREF+
AN7
VREF-
BPL
RECH
PLAYH
D9V
Q1310
KRC102MTA
SWITCHING (BEAT PROOF)
Q1317
R1327 1K
Q1317
KRA106MTA
R/P SELECT
RECIN Lch
RECIN Rch
R1115 470K
R1215 470K
Q1311
Q1310
R1397 1K
Q1311
KRC106MTA
R/P SELECT
R1396 1K
BP
REC_H
PLGND
PLVCC
CP1902
CS971
AN7
VREF+
VREF-
PHOTO_S
Q1320
R1337 47K
C1315 50V47
R1338 1K
Q1318
Q1319
R1336 680
R1398 10K
R1399 4.7K
PL
MOTOR
MOTOR_VCC
Q1319
2SD965RTA
MOTOR DRIVE
Q1318
KTC3199GRTA
MOTOR DRIVE
Q1320
2SB1030RTA
SOLENOID DRIVE
VREF+
AD_OUT
RECINH_F
MODE
RECINH_R
HALF
VREF-
Z971
EXBF7L355SYV
S971
S974
S972
HALF
RECINH_R
R973 39K
W1981
DECK M
ECHANISM

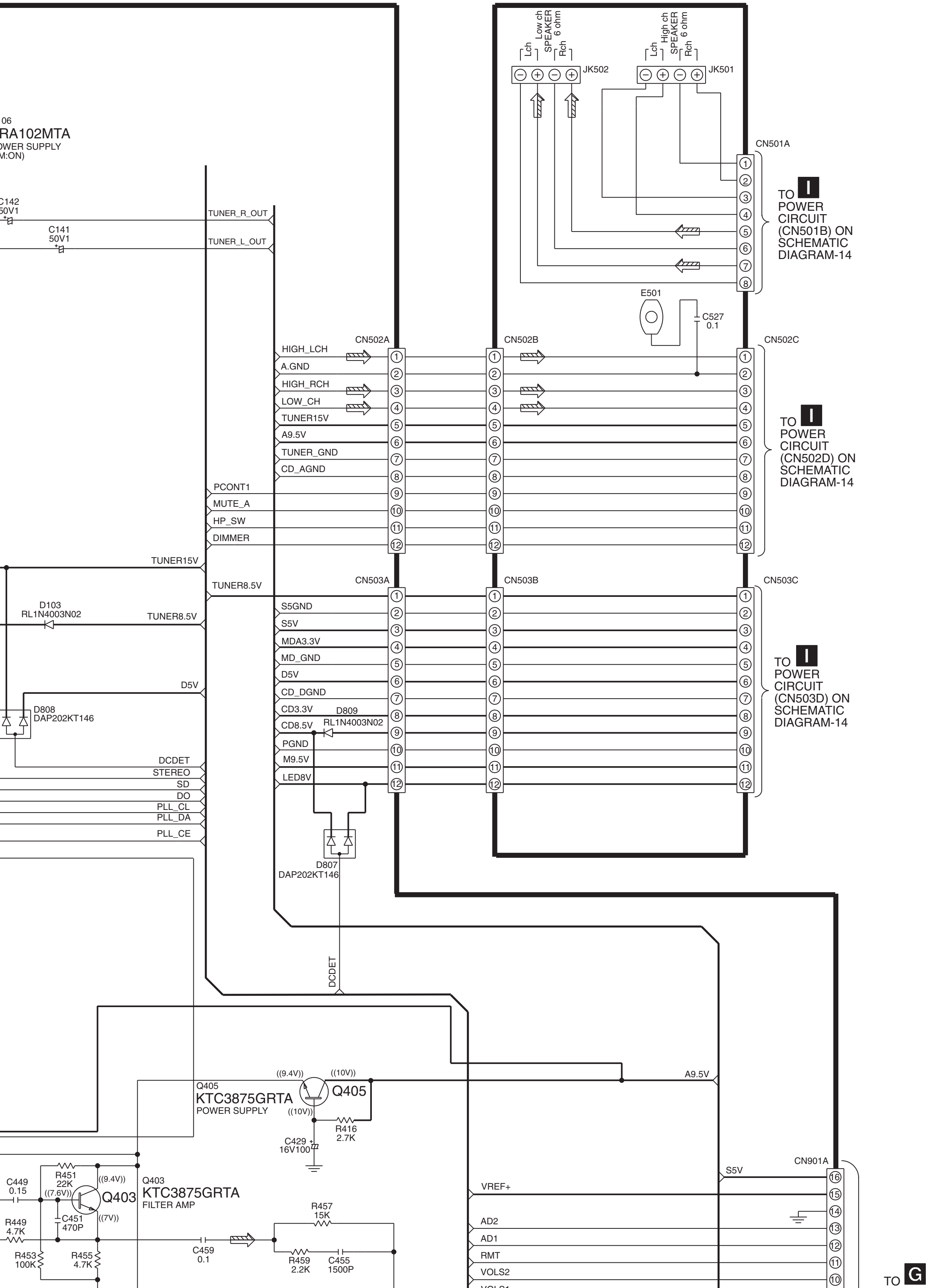
SCHEMATIC DIAGRAM-9

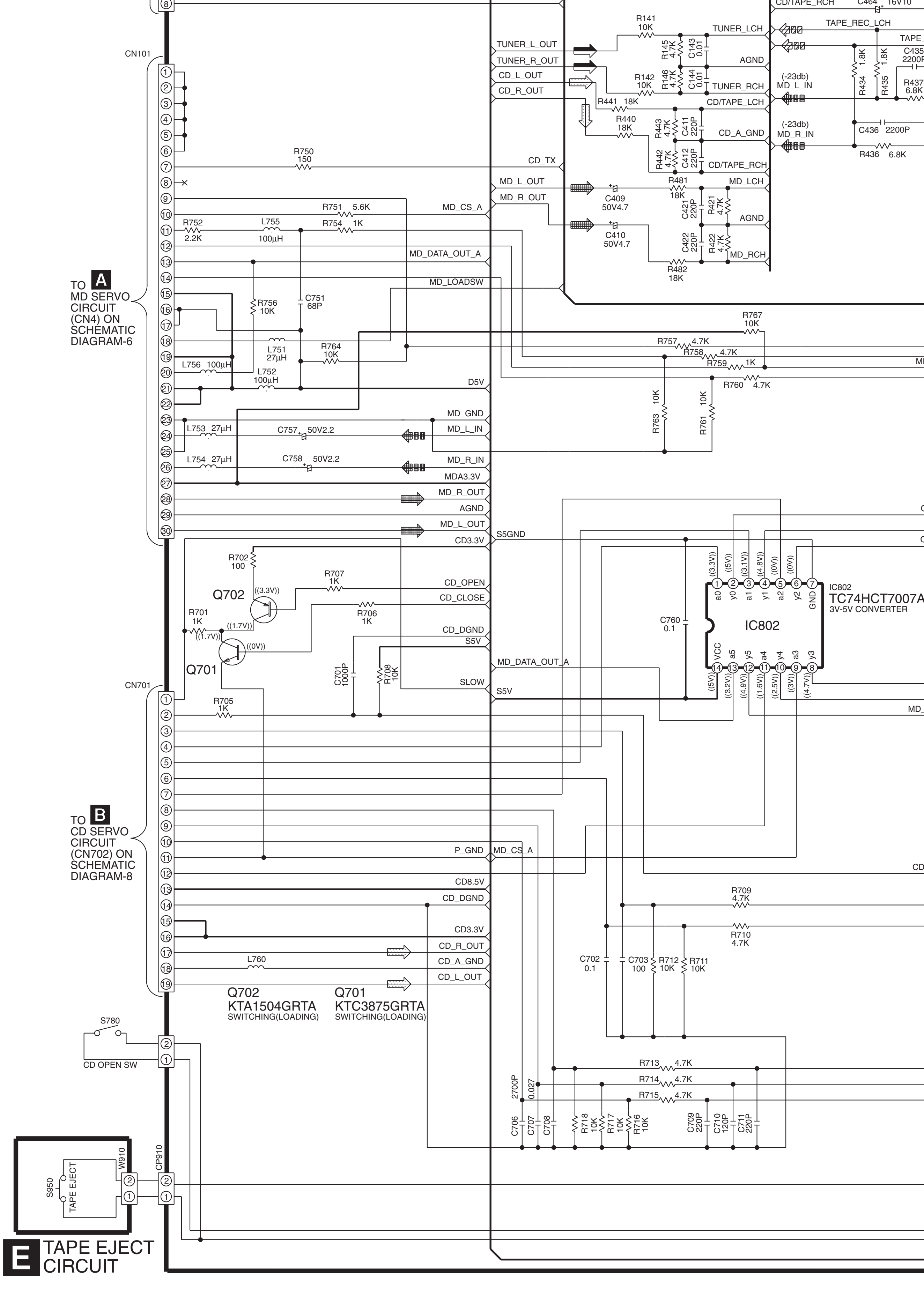

: +B signal line
: FM signal line
: AM signal line
: MD signal line
: MAIN signal line
: FM OSC signal line
: AM OSC signal line
: Record signal line
: CD signal line
: FM/AM signal line
: Playback signal line
: AUX signal line
: MD Record signal line
C MAIN CIRCUIT
N TUNER PACK CIRCUIT
Z120
2SK544F-AC
RF AMP
Q1
2SC2786MTA
MIXER
Q2
2SC2787KTA
LOCAL OSC
BUFFER AMP
SVC211SPA-AL
D1
D2
D3
C1 5.6P
C2 1000P
C3 2.2P
C5 5.6P
C6 3.3P
C7 4.7P
C8 3.3P
C10 18P
C11 1000P
C12 0.47
C13 0.001
R1 100K
R2 100K
R3 220
R5 560K
R6 390
R7 2.7K
R8 680K
R9 390
R10 390
R11 680K
L2 0.47µ
FM EXT ANT
Unbalanced 75 Ω
GND
JK101
AM LOOP ANT
AM EXT ANT
L101 0.39µH
L102 0.39µH
Q101,Q102
2SC2058SPTA
FM IF AMP
C103 0.01
C104 1000P
R106 470K
R107 330
<10.8V> (0V)
<0.7V> (0V)
CF201
R105 470
Q101
C101 0.01
C102 16V47
R103 270
Z101
RLA2Z006M-T
AM ANT COIL
R110 1K
C107 0.047
C125 16V22
R113 10K
D101
R114 5.6K
C111 25V4.7
R115 560
C112 0.01
C110 0.01
R152 0
C133 27P
X103
C134 27P
<2.6V> (2.6V)
<1V> (3.8V)
<0V> (0V)
XOUT VSS AOUT AIN
Xin CE DI CL
R138 3.3K
R130 10K
R137 1K
R136 1K
R135 1K
L
AUX
JK401
R
R401 22K
R402 22K
C401 100P
C402 100P
C403 100P
C404 100P
R403 1.8K
R404 1.8K
AUX_LCH
AUX_RCH
TUNER_GND
CN1301
CD/TAPE_LCH
CD/TAPE_RCH
A.GND
TAPE_REC_RCH
TAPE_REC_LCH
A.GND
A9.5V
M9.5V
PGND
R768 10
TO H DECK CIRCUIT (PW1301) ON SCHEMATIC DIAGRAM-13
((10V))
((0V))
Q703
KTC3875GRTA
SOLENOID DRIVE
R765 10K
R766 1K
MOTOR
DECK_PL
S5V
CN1303
DGND
MK_IN1
MK_IN2
DMT
BP
RECH
CRO2
TO H DECK CIRCUIT (PW1303) ON SCHEMATIC DIAGRAM-13
CN101
PMD_L_OUT
PMD_R_OUT
R423 10K
R424 10K
R425 5.6K
R426 5.6K
C425 1000P
C426 1000P
R427 3.9K
R428 3.9K
PMD_LCH
AGND
PMD_RCH
CRO2PB
AUX_LCH
AUX_RCH
TUNER_LCH
TUNER_RCH
PMD_LCH
PMD_RCH
MD_LCH
MD_RCH
CD/TAPE_LCH
CD/TAPE_RCH
C431 50V2.2
C432 50V2.2
C415 16V10
C416 16V10
C437 16V10
C438 16V10
C461 16V10
C462 16V10
C463 16V10
C464 16V10
TAPE_REC_LCH
TUNER_L_OUT
TUNER_R_OUT
CD_L_OUT
CD_R_OUT
R141 10K
R142 10K
R145 4.7K
R146 4.7K
C143 0.01
C144 0.01
TUNER_LCH
AGND
TUNER_RCH
CD/TAPE_LCH
R441 18K
(-23db)
MD_L_IN
R434 1.8K
R435 1.8K
C435 2200P
R437 6.8K

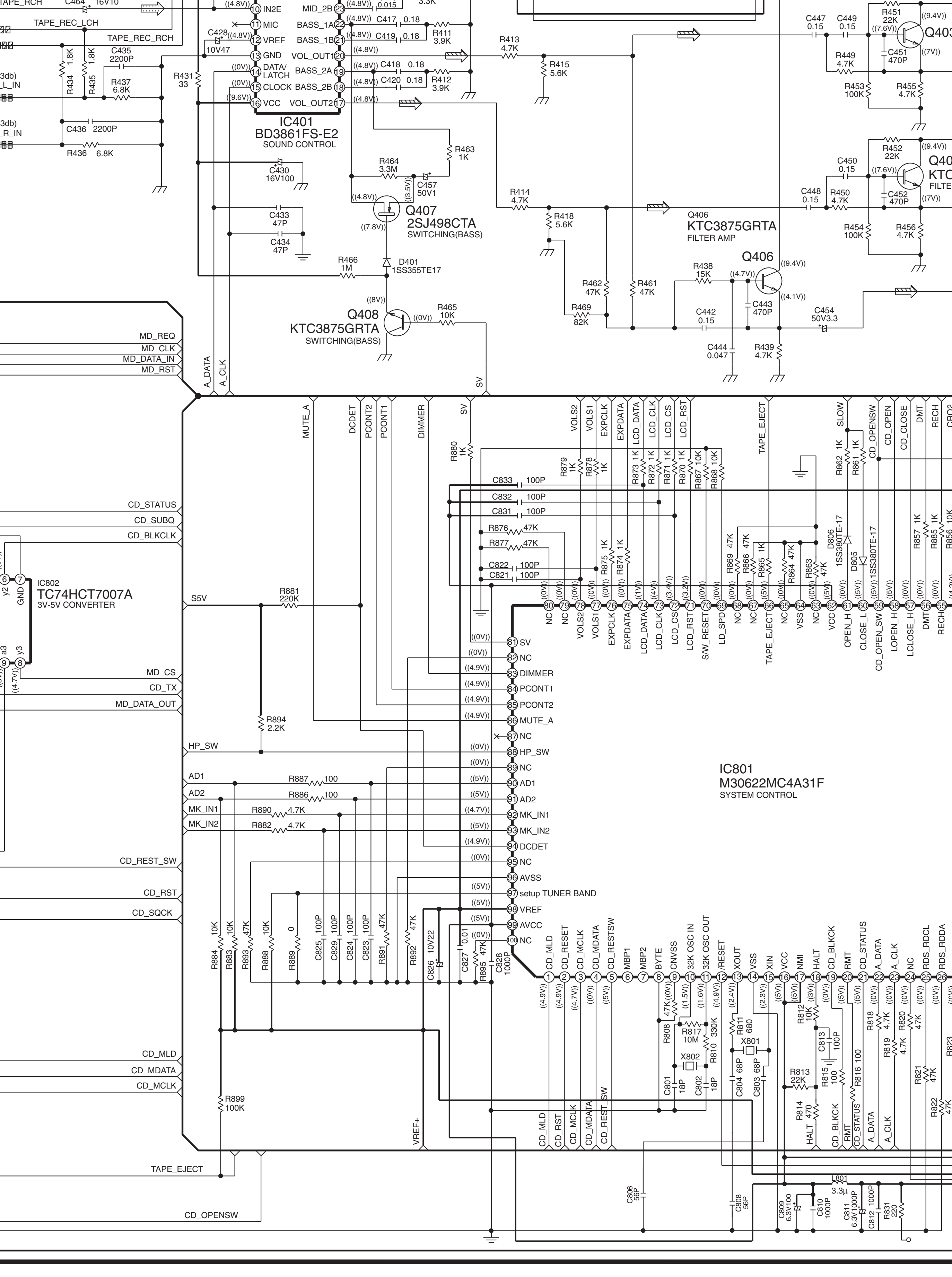
signal line
k signal line
gnal line
cord signal line


Q101,Q102
2SC2058SPTA
FM IF AMP
C103 0.01
C104 1000P
R106 470K
R107 330
R104 1K
<0.7V> (0V)
<10.8V> (0V)
Q101
CF202
IC101
LA1833NMNTLM
FM/AM IF AMP,
DET/AM OSC,MIX/FM MPX
R121 22K
C120 16V10
Q106
<15V> (0V)
<15V> (15V)
<0V> (15V)
Q106
KRA102MTA
POWER SUPPLY
(FM:ON)
R143 22K
C138 0.01
R120 47K
C115 25V4.7
C116 0.033
C119 680P
C139 25V4.7
R102 4.7K
C131 150P
R123 68K
C137 3300P
C118 0.01
C117 0.01
C142 50V1
C141 50V1
C136 1000P
C114 50V3.3
C109 1000P
R118 3.3K
R119 4.7K
osc out
osc
AFC
AM RF in
AGC
AM OUT
DET OUT
PILOT IN
MPX IN
PILOT OUT
Rch
Lch
IC101
FM IF in
AM MIX out
REG
AM IF in
GND
SD
ST
FM DET
Vcc
STRQ
FM/AM
Mono
Z101
RLA2Z006M-T
AM ANT COIL
AM OSC COIL
R110 1K
C107 0.047
R112 100K
C108 8P
C127 16V22
C126 10
Z102
RLI2Z021M-T
C106 0.01
R124 33
X102
R127 470
C122 50V1
R122 2.7K
C121 50V0.47
C123 50V1
R131 68
R111 390
R128 82
C125 16V22
R113 10K
D101
C132 1000P
C130 6.3V100
R114 5.6K
C111 25V4.7
R115 560
R116 1K
C112 0.01
R117 47K
R129 27K
C129 6.3V100
C148 0.01
C147 1000P
C149 0.1
R151 82
C113 1000P
C124 100P
XOUT
VSS
AOUT
AIN
PD
VDD
FMIN
AMIN
MONO
IFIN
IC102
Xin
CE
DI
CL
DO
AM
LW
SDC
STRQ
FM
IC102
LC72131MDTRM
PLL FREQUENCY SYNTHESIZER
D101
UDZSTE175R18
R126 1.5K
R125 470
D103
RL1N4003N02
R132 10K
R133 1K
D808
DAP202KT146
R130 10K
R137 1K
R136 1K
R135 1K
R134 470
C446 16V10
C445 16V10
Q411,Q412
KTC3875GRTA
SWITCHING
C468 0.033
R446 4.7K
C467 0.033
R445 4.7K
02PB
C431 50V2.2
C432 50V2.2
C415 16V10
C416 16V10
C437 16V10
C438 16V10
C461 16V10
C462 16V10
C463 16V10
C464 16V10
X_LCH
X_RCH
NER_LCH
NER_RCH
D_LCH
D_RCH
_LCH
_RCH
TAPE_LCH
TAPE_RCH
TAPE_REC_LCH
TAPE_REC_RCH
IN1A
IN2A
IN1B
IN2B
IN1C
IN2C
IN1D
IN2D
IN1E
IN2E
MIC
VREF
GND
DATA/ LATCH
CLOCK
VCC
VSELA OUT1
VSELA OUT2
VSELA IN2
VSELA IN1
TREB_1
TREB_2
MID_1A
MID_1B
MID_2A
MID_2B
BASS_1A
BASS_1B
VOL_OUT1
BASS_2A
BASS_2B
VOL_OUT2
C441 50V0.47
C440 50V0.47
R447 47K
R448 47K
Q411
Q412
C423 6800P
C424 6800P
C408 0.015
C414 0.015
R410 3.3K
C407 0.015
C413 0.015
R409 3.3K
C417 0.18
C419 0.18
R411 3.9K
C418 0.18
C420 0.18
R412 3.9K
C428 10V47
C435 2200P
R434 1.8K
R435 1.8K
R437 6.8K
R431 33
R413 4.7K
R415 5.6K
C447 0.15
C449 0.15
R451 22K
R449 4.7K
C451 470P
R453 100K
R455 4.7K
Q403

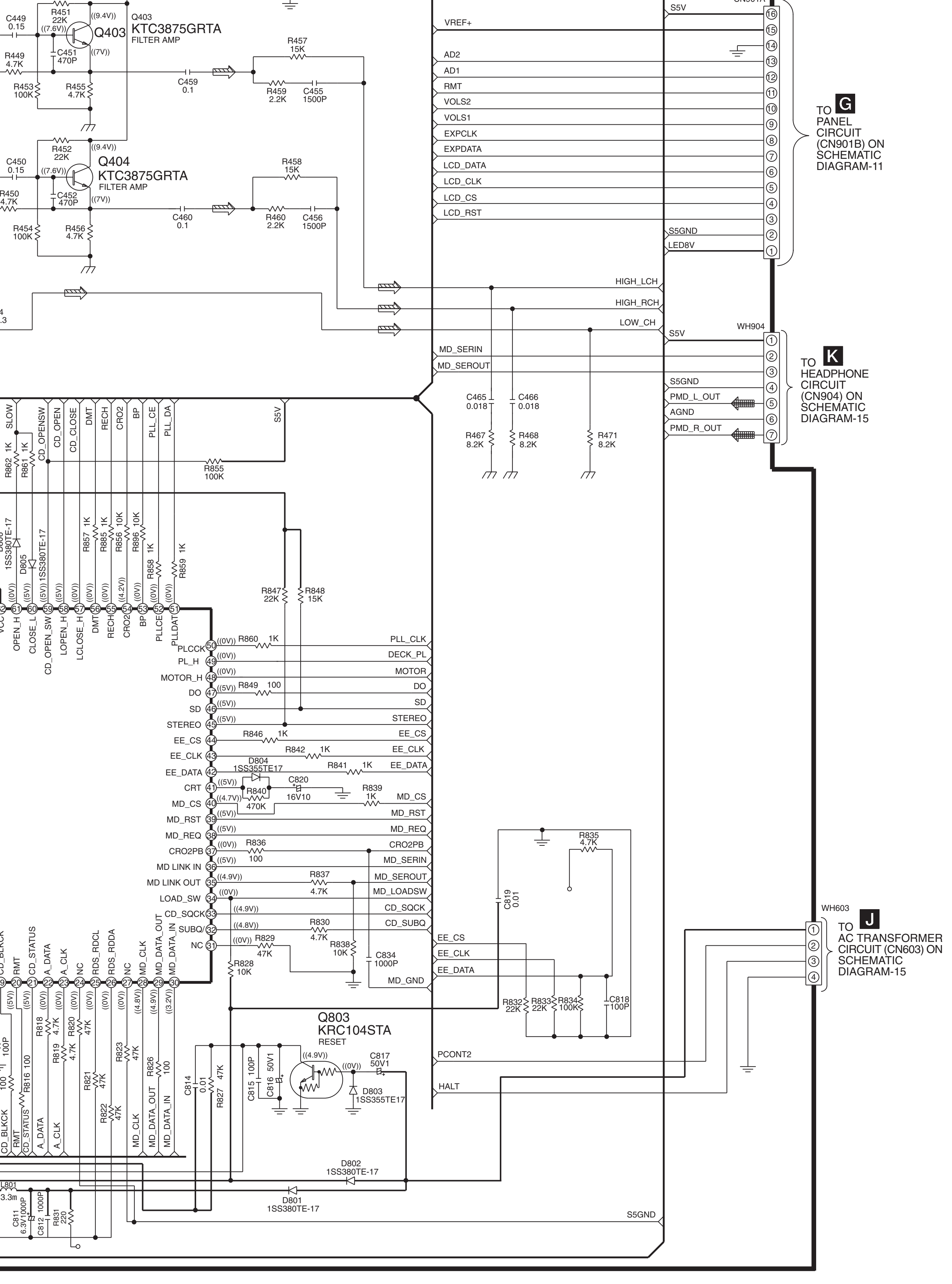
D SPEAKER CIRCUIT


Low ch SPEAKER 6 ohm
Lch
Rch
JK502
High ch SPEAKER 6 ohm
Lch
Rch
JK501
CN501A
TO I POWER CIRCUIT (CN501B) ON SCHEMATIC DIAGRAM-14
E501
C527 0.1
06
RA102MTA
OWER SUPPLY
M:ON)
C142 50V1
C141 50V1
TUNER_R_OUT
TUNER_L_OUT
CN502A
CN502B
CN502C
HIGH_LCH
A.GND
HIGH_RCH
LOW_CH
TUNER15V
A9.5V
TUNER_GND
CD_AGND
PCONT1
MUTE_A
HP_SW
DIMMER
TO I POWER CIRCUIT (CN502D) ON SCHEMATIC DIAGRAM-14
TUNER15V
TUNER8.5V
D103 RL1N4003N02
TUNER8.5V
CN503A
CN503B
CN503C
S5GND
S5V
MDA3.3V
MD_GND
D5V
CD_DGND
CD3.3V
CD8.5V
D809 RL1N4003N02
PGND
M9.5V
LED8V
D5V
D808 DAP202KT146
DCDET
STEREO
SD
DO
PLL_CL
PLL_DA
PLL_CE
TO I POWER CIRCUIT (CN503D) ON SCHEMATIC DIAGRAM-14
D807 DAP202KT146
DCDET
((9.4V))
((10V))
Q405
KTC3875GRTA
POWER SUPPLY
((10V))
R416 2.7K
C429 16V100
A9.5V
C449 0.15
R451 22K
((7.6V))
((9.4V))
Q403
KTC3875GRTA
FILTER AMP
C451 470P
((7V))
R449 4.7K
R453 100K
R455 4.7K
C459 0.1
R457 15K
R459 2.2K
C455 1500P
CN901A
S5V
VREF+
AD2
AD1
RMT
VOLS2
TO G


CN101
TO A MD SERVO CIRCUIT (CN4) ON SCHEMATIC DIAGRAM-6
R750 150
CD_TX
R751 5.6K
MD_CS_A
R752 2.2K
L755 100µH
R754 1K
MD_DATA_OUT_A
MD_LOADSW
R756 10K
C751 68P
L751 27µH
R764 10K
L756 100µH
L752 100µH
D5V
MD_GND
L753 27µH
C757 50V2.2
MD_L_IN
L754 27µH
C758 50V2.2
MD_R_IN
MDA3.3V
MD_R_OUT
AGND
MD_L_OUT
S5GND
CD3.3V
R702 100
Q702
((3.3V))
R707 1K
CD_OPEN
CD_CLOSE
R701 1K
((1.7V))
R706 1K
((0V))
CD_DGND
S5V
Q701
C701 1000P
R708 10K
MD_DATA_OUT_A
SLOW
S5V
CN701
R705 1K
TO B CD SERVO CIRCUIT (CN702) ON SCHEMATIC DIAGRAM-8
P_GND
MD_CS_A
CD8.5V
CD_DGND
CD3.3V
CD_R_OUT
L760
CD_A_GND
CD_L_OUT
Q702 KTA1504GRTA SWITCHING(LOADING)
Q701 KTC3875GRTA SWITCHING(LOADING)
S780
CD OPEN SW
CP910
W910
S950
TAPE EJECT
E TAPE EJECT CIRCUIT
TUNER_L_OUT
TUNER_R_OUT
CD_L_OUT
CD_R_OUT
R141 10K
R142 10K
R145 4.7K
R146 4.7K
C143 0.01
C144 0.01
TUNER_LCH
AGND
TUNER_RCH
R441 18K
CD/TAPE_LCH
R440 18K
R443 4.7K
R442 4.7K
C411 220P
C412 220P
CD_A_GND
CD/TAPE_RCH
MD_L_OUT
MD_R_OUT
C409 50V4.7
C410 50V4.7
R481 18K
R482 18K
C421 220P
C422 220P
R421 4.7K
R422 4.7K
MD_LCH
AGND
MD_RCH
CD/TAPE_RCH
C464 16V10
TAPE_REC_LCH
TAPE_
R434 1.8K
R435 1.8K
C435 2200P
R437 6.8K
(-23db) MD_L_IN
(-23db) MD_R_IN
C436 2200P
R436 6.8K
R767 10K
R757 4.7K
R758 4.7K
R759 1K
R760 4.7K
R763 10K
R761 10K
IC802
TC74HCT7007A
3V-5V CONVERTER
IC802
a0 y0 a1 y1 a2 y2 GND
VCC a5 y5 a4 y4 a3 y3
((3.3V)) ((5V)) ((3.1V)) ((4.8V)) ((0V)) ((0V))
((5V)) ((3.2V)) ((4.9V)) ((1.6V)) ((2.5V)) ((3V)) ((4.7V))
C760 0.1
MD_
CD
R709 4.7K
R710 4.7K
C702 0.1
C703 100
R712 10K
R711 10K
R713 4.7K
R714 4.7K
R715 4.7K
2700P
0.027
C706
C707
C708
R718 10K
R717 10K
R716 10K
C709 220P
C710 120P
C711 220P



IC401
BD3861FS-E2
SOUND CONTROL
IN2E
MIC
VREF
GND
DATA/LATCH
CLOCK
VCC
MID_2B
BASS_1A
BASS_1B
VOL_OUT1
BASS_2A
BASS_2B
VOL_OUT2
TAPE_REC_LCH
TAPE_REC_RCH
C435 2200P
C436 2200P
R437 6.8K
R436 6.8K
R434 1.8K
R435 1.8K
R431 33
C428 10V47
C430 16V100
C433 47P
C434 47P
C417 0.18
C419 0.18
C418 0.18
C420 0.18
R411 3.9K
R412 3.9K
R413 4.7K
R415 5.6K
R414 4.7K
R418 5.6K
R463 1K
R464 3.3M
C457 50V1
Q407
2SJ498CTA
SWITCHING(BASS)
R466 1M
D401 1SS355TE17
Q408
KTC3875GRTA
SWITCHING(BASS)
R465 10K
Q406
KTC3875GRTA
FILTER AMP
R438 15K
R462 47K
R461 47K
R469 82K
C442 0.15
C443 470P
C444 0.047
R439 4.7K
C454 50V3.3
C447 0.15
C449 0.15
R451 22K
R449 4.7K
C451 470P
R453 100K
R455 4.7K
Q403
C450 0.15
C448 0.15
R452 22K
R450 4.7K
C452 470P
R454 100K
R456 4.7K
FILTE
MD_REQ
MD_CLK
MD_DATA_IN
MD_RST
A_DATA
A_CLK
SV
CD_STATUS
CD_SUBQ
CD_BLKCLK
IC802
TC74HCT7007A
3V-5V CONVERTER
S5V
R881 220K
MD_CS
CD_TX
MD_DATA_OUT
R894 2.2K
HP_SW
AD1
AD2
MK_IN1
MK_IN2
R887 100
R886 100
R890 4.7K
R882 4.7K
CD_REST_SW
CD_RST
CD_SQCK
R884 10K
R883 10K
R893 47K
R888 10K
R889 0
C825 100P
C829 100P
C824 100P
C823 100P
R891 47K
R892 47K
C826 10V22
C827 0.01
R895 47K
C828 1000P
R899 100K
CD_MLD
CD_MDATA
CD_MCLK
TAPE_EJECT
CD_OPENSW
VREF+
IC801
M30622MC4A31F
SYSTEM CONTROL
SV
NC
DIMMER
PCONT1
PCONT2
MUTE_A
HP_SW
AD1
AD2
MK_IN1
MK_IN2
DCDET
AVSS
setup TUNER BAND
VREF
AVCC
VOLS2
VOLS1
EXPCLK
EXPDATA
LCD_DATA
LCD_CLK
LCD_CS
LCD_RST
S/W_RESET
LD_SPD
TAPE_EJECT
VSS
VCC
OPEN_H
CLOSE_L
CD_OPEN_SW
LOPEN_H
LCLOSE_H
DMT
RECH
SLOW
CD_OPENSW
CD_OPEN
CD_CLOSE
R880 1K
R879 1K
R878 1K
R873 1K
R872 1K
R871 1K
R870 1K
R867 10K
R868 10K
C833 100P
C832 100P
C831 100P
R876 47K
R877 47K
C822 100P
C821 100P
R875 1K
R874 1K
R869 47K
R866 47K
R865 1K
R864 47K
R863 47K
D806 1SS380TE-17
D805 1SS380TE-17
R862 1K
R861 1K
R857 1K
R885 1K
R856 10K
CD_RESET
CD_MCLK
CD_MDATA
CD_RESTSW
MBP1
MBP2
BYTE
CNVSS
32K OSC IN
32K OSC OUT
/RESET
XOUT
XIN
NMI
HALT
CD_BLKCK
RMT
CD_STATUS
A_DATA
A_CLK
NC
RDS_RDCL
RDS_RDDA
R808 47K
R817 10M
R810 330K
X802
X801
C801 18P
C802 18P
R811 680
C804 68P
C803 68P
R812 10K
C813 100P
R813 22K
R815 100
R816 100
R814 470
R818 4.7K
R819 4.7K
R820 47K
R821 47K
R822 47K
R823
CD_MLD
CD_RST
CD_MCLK
CD_MDATA
CD_REST_SW
HALT
CD_BLKCK
RMT
CD_STATUS
A_DATA
A_CLK
C806 56P
C808 56P
C809 6.3V100
C810 1000P
L801 3.3µ
C811 6.3V1000P
C812 1000P
R831 220

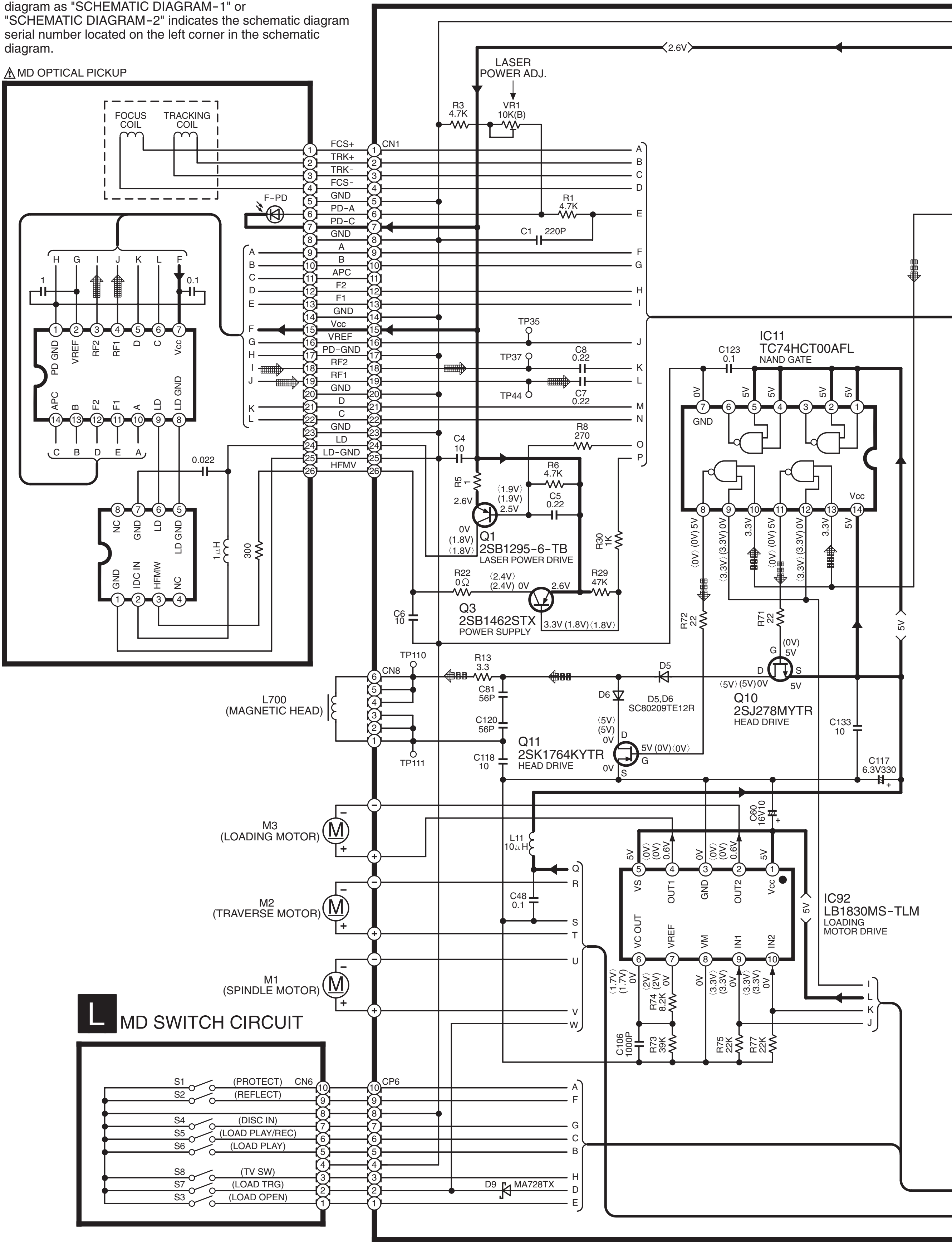

C449 0.15
R451 22K
((9.4V))
((7.6V))
Q403
Q403 KTC3875GRTA
FILTER AMP
C451 470P
((7V))
R449 4.7K
R453 100K
R455 4.7K
C459 0.1
R457 15K
R459 2.2K
C455 1500P
R452 22K
((9.4V))
Q404 KTC3875GRTA
FILTER AMP
C450 0.15
((7.6V))
C452 470P
((7V))
R450 4.7K
R454 100K
R456 4.7K
C460 0.1
R458 15K
R460 2.2K
C456 1500P
S5V
VREF+
AD2
AD1
RMT
VOLS2
VOLS1
EXPCLK
EXPDATA
LCD_DATA
LCD_CLK
LCD_CS
LCD_RST
S5GND
LED8V
⑯ ⑮ ⑭ ⑬ ⑫ ⑪ ⑩ ⑨ ⑧ ⑦ ⑥ ⑤ ④ ③ ② ①
TO G PANEL CIRCUIT (CN901B) ON SCHEMATIC DIAGRAM-11
HIGH_LCH
HIGH_RCH
LOW_CH
WH904
S5V
MD_SERIN
MD_SEROUT
S5GND
PMD_L_OUT
AGND
PMD_R_OUT
① ② ③ ④ ⑤ ⑥ ⑦
TO K HEADPHONE CIRCUIT (CN904) ON SCHEMATIC DIAGRAM-15
C465 0.018
C466 0.018
R467 8.2K
R468 8.2K
R471 8.2K
SLOW
OPEN_SW
CD_OPEN
CD_CLOSE
DMT
RECH
CRO2
BP
PLL_CE
PLL_DA
S5V
R862 1K
R861 1K
CD_OPENSW
R855 100K
D806 1SS380TE-17
D805 1SS380TE-17
R857 1K
R885 1K
R856 10K
R896 10K
R858 1K
R859 1K
((0V)) ((5V)) ((5V)) ((5V)) ((0V)) ((0V)) ((0V)) ((4.2V)) ((0V)) ((0V)) ((0V))
62 61 60 59 58 57 56 55 54 53 52 51
VCC OPEN_H CLOSE_L CD_OPEN_SW LOPEN_H LCLOSE_H DMT RECH CRO2 BP PLLCE PLLDAT
R847 22K
R848 15K
PLLCK 50 ((0V)) R860 1K PLL_CLK
PL_H 49 ((0V)) DECK_PL
MOTOR_H 48 ((0V)) MOTOR
DO 47 ((5V)) R849 100 DO
SD 46 ((5V)) SD
STEREO 45 ((5V)) STEREO
EE_CS 44 R846 1K EE_CS
EE_CLK 43 R842 1K EE_CLK
EE_DATA 42 D804 1SS355TE17 R841 1K EE_DATA
CRT 41 ((5V)) C820 16V10
MD_CS 40 ((4.7V)) R840 470K R839 1K MD_CS
MD_RST 39 ((5V)) MD_RST
MD_REQ 38 ((5V)) MD_REQ
CRO2PB 37 ((0V)) R836 100 CRO2PB
MD LINK IN 36 ((5V)) MD_SERIN
MD LINK OUT 35 ((4.9V)) R837 4.7K MD_SEROUT
LOAD_SW 34 ((0V)) MD_LOADSW
CD_SQCK 33 ((4.9V)) CD_SQCK
SUBQ 32 ((4.8V)) R830 4.7K CD_SUBQ
NC 31 ((0V)) R829 47K
R838 10K
C834 1000P
R828 10K
MD_GND
EE_CS
EE_CLK
EE_DATA
R835 4.7K
C819 0.01
R832 22K
R833 22K
R834 100K
C818 100P
CD_BLKCK RMT CD_STATUS A_DATA A_CLK NC RDS_RDCL RDS_RDDA NC MD_CLK MD_DATA_OUT MD_DATA_IN
19 20 21 22 23 24 25 26 27 28 29 30
((5V)) ((5V)) ((0V)) ((0V)) ((0V)) ((0V)) ((0V)) ((0V)) ((4.8V)) ((4.9V)) ((3.2V))
R818 4.7K
R819 4.7K
R820 47K
R821 47K
R822 47K
R823 47K
R826 100
R816 100
100P
100
CD_BLKCK RMT CD_STATUS A_DATA A_CLK MD_CLK MD_DATA_OUT MD_DATA_IN
Q803 KRC104STA
RESET
((4.9V))
((0V))
C817 50V1
D803 1SS355TE17
C814 0.01
R827 47K
C815 100P
C816 50V1
PCONT2
HALT
WH603
① ② ③ ④
TO J AC TRANSFORMER CIRCUIT (CN603) ON SCHEMATIC DIAGRAM-15
D802 1SS380TE-17
D801 1SS380TE-17
L801 3.3m
C811 6.3V1000P
C812 1000P
R831 220
S5GND

SCHEMATIC DIAGRAM-1

Note:
The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.

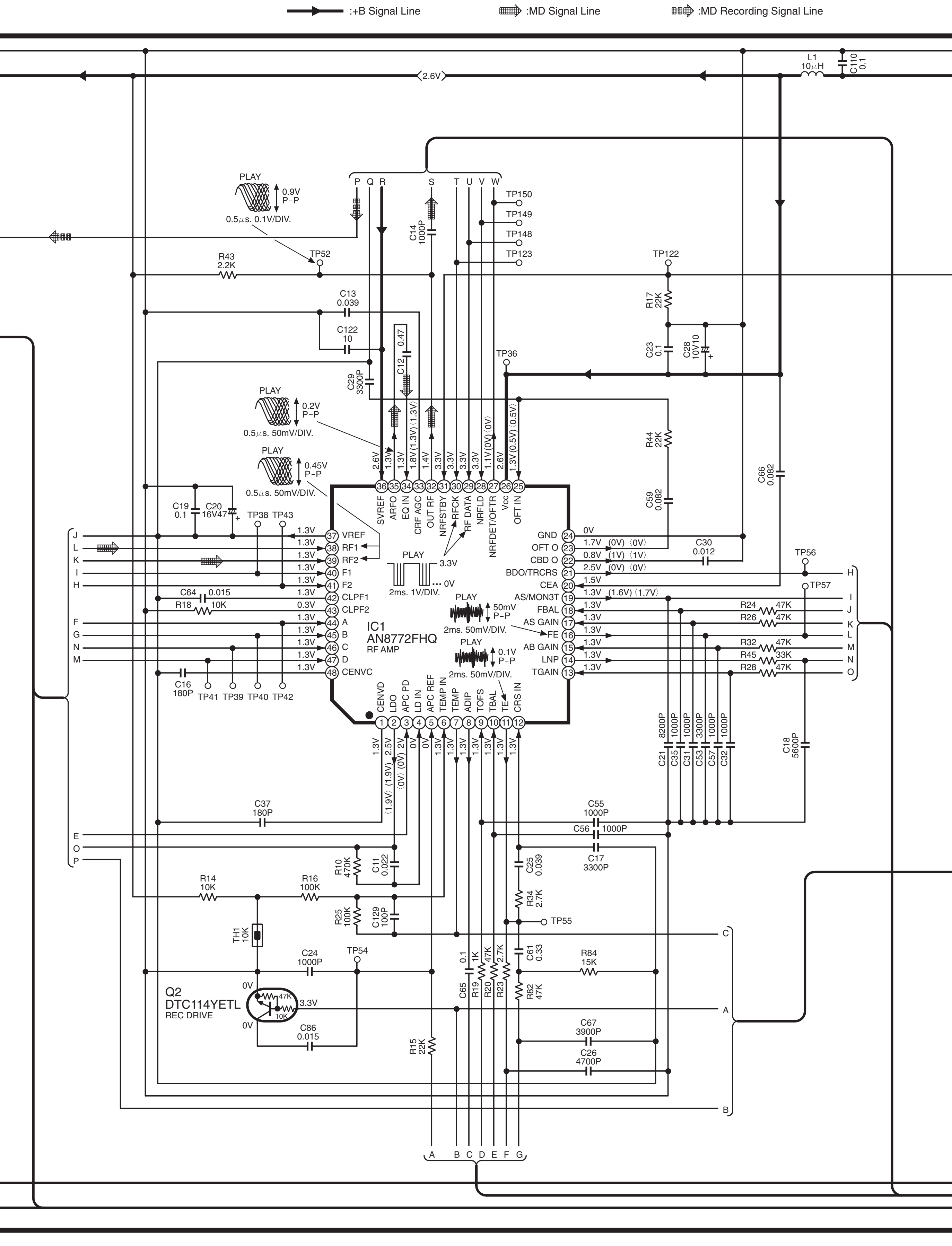
A MD SERVO CIRCUIT

:+B Signal Line
:MD Signal Line
:MD Recording Signal Line



⚠MD OPTICAL PICKUP
FOCUS COIL
TRACKING COIL
F-PD
H G I J K L F
1
0.1
PD GND
VREF
RF2
RF1
D
C
Vcc
APC
B
F2
F1
A
LD
LD GND
C B D E A
0.022
NC GND LD LD GND
GND IDC IN HFMW NC
1μH
300
FCS+ TRK+ TRK- FCS- GND PD-A PD-C GND A B APC F2 F1 GND Vcc VREF PD-GND RF2 RF1 GND D C GND LD LD-GND HFMV
CN1
2.6V
LASER POWER ADJ.
R3 4.7K
VR1 10K(B)
R1 4.7K
C1 220P
TP35
TP37
TP44
C8 0.22
C7 0.22
R8 270
C4 10
R5 1
R6 4.7K
C5 0.22
2.6V
〈1.9V〉 (1.9V) 2.5V
0V (1.8V) 〈1.8V〉
Q1 2SB1295-6-TB LASER POWER DRIVE
R30 1K
R22 0Ω
〈2.4V〉 (2.4V) 0V
2.6V
R29 47K
C6 10
Q3 2SB1462STX POWER SUPPLY
3.3V (1.8V)〈1.8V〉
IC11 TC74HCT00AFL NAND GATE
C123 0.1
0V 5V 5V 5V 5V
GND
Vcc
〈0V〉(0V) 5V
〈3.3V〉(3.3V) 0V
3.3V
〈0V〉(0V) 5V
〈3.3V〉(3.3V) 0V
3.3V
5V
R72 22
R71 22
(0V) 5V
〈5V〉(5V) 0V
5V
Q10 2SJ278MYTR HEAD DRIVE
5V
C133 10
C117 6.3V330
CN8
TP110
TP111
L700 (MAGNETIC HEAD)
R13 3.3
D5
C81 56P
D6
D5,D6 SC80209TE12R
C120 56P
〈5V〉 (5V) 0V
C118 10
Q11 2SK1764KYTR HEAD DRIVE
5V (0V)〈0V〉
0V
M3 (LOADING MOTOR)
M2 (TRAVERSE MOTOR)
M1 (SPINDLE MOTOR)
L11 10μH
C48 0.1
C60 16V10
Q R S T U V W
5V 〈0V〉(0V) 0.6V 0V 〈0V〉(0V) 0.6V 5V
VS OUT1 GND OUT2 Vcc
VC OUT VREF VM IN1 IN2
IC92 LB1830MS-TLM LOADING MOTOR DRIVE
5V
〈1.7V〉 (1.7V) 0V
〈2V〉 (2V) 0V
R74 8.2K
0V
〈3.3V〉 (3.3V) 0V
〈3.3V〉 (3.3V) 0V
C106 1000P
R73 39K
R75 22K
R77 22K
I L K J
L MD SWITCH CIRCUIT
S1 (PROTECT)
S2 (REFLECT)
S4 (DISC IN)
S5 (LOAD PLAY/REC)
S6 (LOAD PLAY)
S8 (TV SW)
S7 (LOAD TRG)
S3 (LOAD OPEN)
CN6
CP6
A F G C B H D E
D9 MA728TX

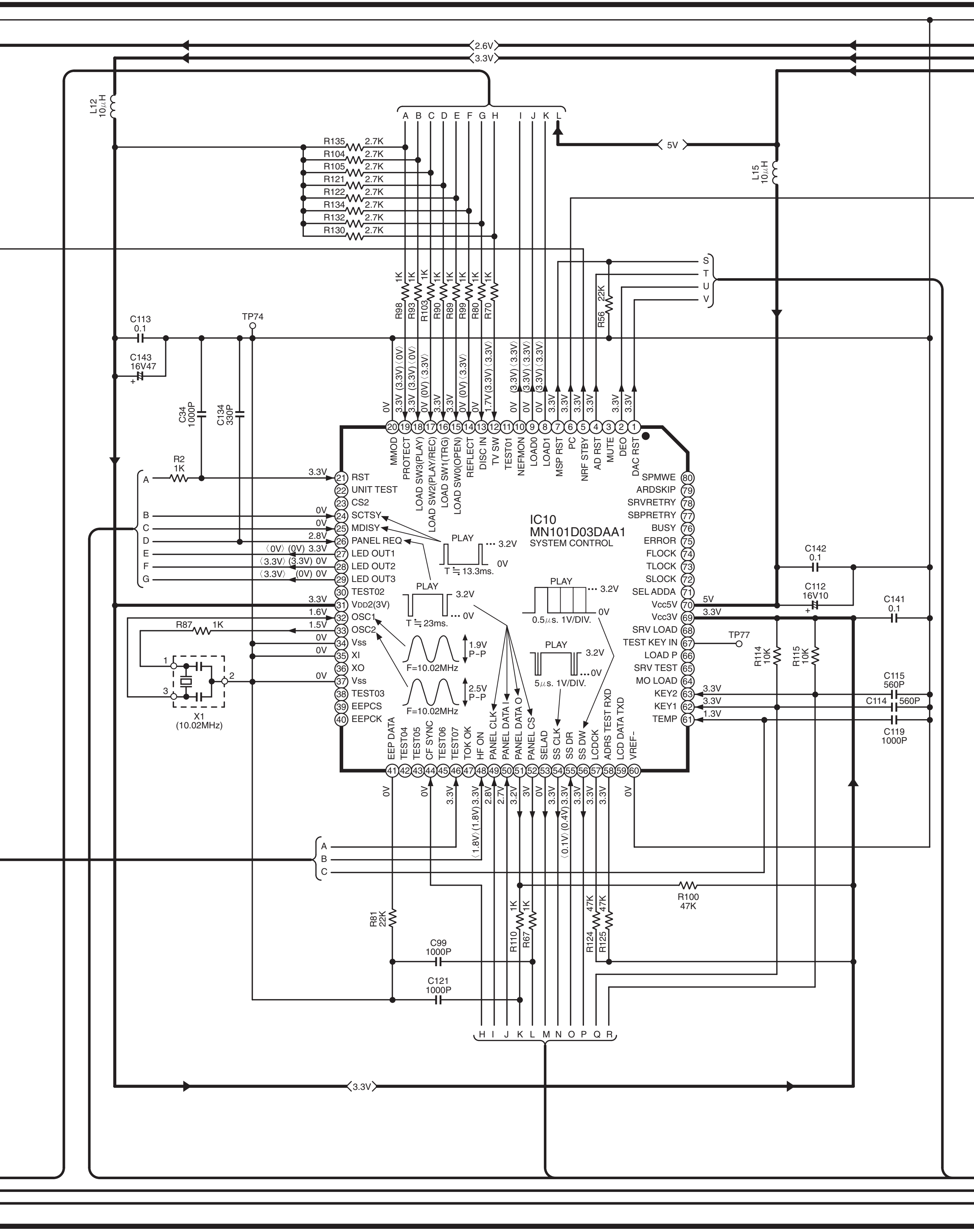
SCHEMATIC DIAGRAM-2


:+B Signal Line
:MD Signal Line
:MD Recording Signal Line
L1
10μH
C110
0.1
2.6V
P Q R S T U V W
TP150
TP149
TP148
TP123
TP122
PLAY
0.9V
P-P
0.5μs. 0.1V/DIV.
TP52
R43
2.2K
C14
1000P
R17
22K
C13
0.039
C122
10
C12
0.47
C23
0.1
C28
10V10
TP36
C29
3300P
PLAY
0.2V
P-P
0.5μs. 50mV/DIV.
R44
22K
PLAY
0.45V
P-P
0.5μs. 50mV/DIV.
C66
0.082
C59
0.082
2.6V 1.3V 1.8V(1.3V)〈1.3V〉 1.4V 3.3V 3.3V 3.3V 3.3V 1.1V(0V)〈0V〉 2.6V 1.3V(0.5V)〈0.5V〉
36 SVREF
35 ARFO
34 EQ IN
33 CRF AGC
32 OUT RF
31 NRFSTBY
30 RFCK
29 RF DATA
28 NRFLD
27 NRFDET/OFTR
26 Vcc
25 OFT IN
C19
0.1
C20
16V47
TP38
TP43
J L K I H F G N M E O P
1.3V 37 VREF
1.3V 38 RF1
1.3V 39 RF2
1.3V 40 F1
1.3V 41 F2
C64 0.015
1.3V 42 CLPF1
R18 10K
0.3V 43 CLPF2
1.3V 44 A
1.3V 45 B
1.3V 46 C
1.3V 47 D
1.3V 48 CENVC
C16
180P
TP41 TP39 TP40 TP42
PLAY
3.3V
0V
2ms. 1V/DIV.
IC1
AN8772FHQ
RF AMP
GND 24 0V
OFT O 23 1.7V (0V)〈0V〉
CBD O 22 0.8V (1V)〈1V〉
BDO/TRCRS 21 2.5V (0V)〈0V〉
CEA 20 1.5V
AS/MON3T 19 1.3V (1.6V)〈1.7V〉
FBAL 18 1.3V
AS GAIN 17 1.3V
FE 16 1.3V
AB GAIN 15 1.3V
LNP 14 1.3V
TGAIN 13 1.3V
C30
0.012
TP56
TP57
PLAY
50mV
P-P
2ms. 50mV/DIV.
PLAY
0.1V
P-P
2ms. 50mV/DIV.
R24 47K
R26 47K
R32 47K
R45 33K
R28 47K
H I J K L M N O
1 CENVD
2 LDO
3 APC PD
4 LD IN
5 APC REF
6 TEMP IN
7 TEMP
8 ADIP
9 TOFS
10 TBAL
11 TE
12 CRS IN
1.3V 2.5V 2V 0V 0V 1.3V 1.3V 1.3V 1.3V 1.3V 1.3V
〈1.9V〉(1.9V) 〈0V〉(0V)
C21 8200P
C35 1000P
C31 1000P
C53 3300P
C57 1000P
C32 1000P
C18
5600P
C37
180P
C55
1000P
C56 1000P
C17
3300P
R10
470K
C11
0.022
C25
0.039
R14
10K
R16
100K
R34
2.7K
R25
100K
C129
100P
TP55
TH1
10K
C
C24
1000P
TP54
C65 0.1
R19 1K
R20 47K
R23 2.7K
C61
0.33
R84
15K
R82
47K
Q2
DTC114YETL
REC DRIVE
0V
47K
10K
3.3V
0V
A
C86
0.015
R15
22K
C67
3900P
C26
4700P
B
A B C D E F G

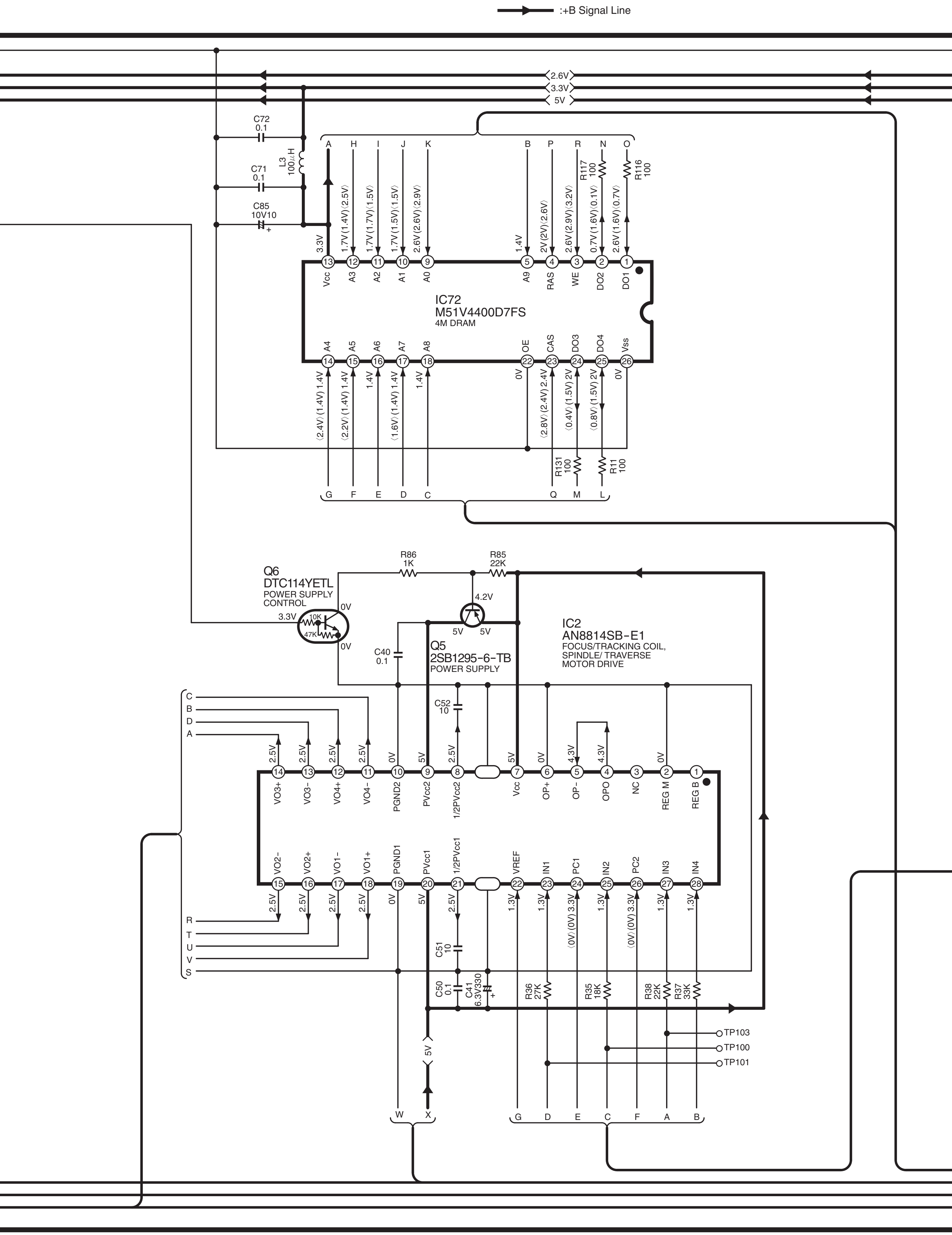
SCHEMATIC DIAGRAM-3

A MD SERVO CIRCUIT

:+B Signal Line


2.6V
3.3V
5V
L12 10μH
L15 10μH
R135 2.7K
R104 2.7K
R105 2.7K
R121 2.7K
R122 2.7K
R134 2.7K
R132 2.7K
R130 2.7K
A B C D E F G H I J K L
S T U V
R98 1K
R93 1K
R103 1K
R90 1K
R89 1K
R99 1K
R80 1K
R70 1K
R56 22K
C113 0.1
C143 16V47
TP74
C34 1000P
C134 330P
R2 1K
IC10
MN101D03DAA1
SYSTEM CONTROL
1 DAC RST
2 DEO
3 MUTE
4 AD RST
5 NRF STBY
6 PC
7 MSP RST
8 LOAD1
9 LOAD0
10 NEFMON
11 TEST01
12 TV SW
13 DISC IN
14 REFLECT
15 LOAD SW0(OPEN)
16 LOAD SW1(TRG)
17 LOAD SW2(PLAY/REC)
18 LOAD SW3(PLAY)
19 PROTECT
20 MMOD
21 RST
22 UNIT TEST
23 CS2
24 SCTSY
25 MDISY
26 PANEL REQ
27 LED OUT1
28 LED OUT2
29 LED OUT3
30 TEST02
31 VDD2(3V)
32 OSC1
33 OSC2
34 Vss
35 XI
36 XO
37 Vss
38 TEST03
39 EEPCS
40 EEPCK
41 EEP DATA
42 TEST04
43 TEST05
44 CF SYNC
45 TEST06
46 TEST07
47 TOK OK
48 HF ON
49 PANEL CLK
50 PANEL DATA I
51 PANEL DATA O
52 PANEL CS
53 SELAD
54 SS CLK
55 SS DR
56 SS DW
57 LCDCK
58 ADRS TEST RXD
59 LCD DATA TXD
60 VREF-
61 TEMP
62 KEY1
63 KEY2
64 MO LOAD
65 SRV TEST
66 LOAD P
67 TEST KEY IN
68 SRV LOAD
69 Vcc3V
70 Vcc5V
71 SEL ADDA
72 SLOCK
73 TLOCK
74 FLOCK
75 ERROR
76 BUSY
77 SBPRETRY
78 SRVRETRY
79 ARDSKIP
80 SPMWE
PLAY ··· 3.2V 0V T ≒ 13.3ms.
PLAY 3.2V ··· 0V T ≒ 23ms.
PLAY ··· 3.2V 0.5μs. 1V/DIV. 0V
PLAY 3.2V ···0V 5μs. 1V/DIV.
1.9V P-P F=10.02MHz
2.5V P-P F=10.02MHz
R87 1K
X1 (10.02MHz)
C142 0.1
C112 16V10
C141 0.1
TP77
R114 10K
R115 10K
C115 560P
C114 560P
C119 1000P
R100 47K
R81 22K
C99 1000P
C121 1000P
R110 1K
R67 1K
R124 47K
R125 47K
H I J K L M N O P Q R
3.3V

SCHEMATIC DIAGRAM-4


:+B Signal Line
2.6V
3.3V
5V
C72
0.1
C71
0.1
C85
10V10
L3
100μH
R117
100
R116
100
IC72
M51V4400D7FS
4M DRAM
Vcc
A3
A2
A1
A0
A9
RAS
WE
DO2
DO1
A4
A5
A6
A7
A8
OE
CAS
DO3
DO4
Vss
R131
100
R11
100
Q6
DTC114YETL
POWER SUPPLY
CONTROL
10K
47K
R86
1K
R85
22K
4.2V
Q5
2SB1295-6-TB
POWER SUPPLY
C40
0.1
C52
10
IC2
AN8814SB-E1
FOCUS/TRACKING COIL,
SPINDLE/ TRAVERSE
MOTOR DRIVE
VO3+
VO3-
VO4+
VO4-
PGND2
PVcc2
1/2PVcc2
Vcc
OP+
OP-
OPO
NC
REG M
REG B
VO2-
VO2+
VO1-
VO1+
PGND1
PVcc1
1/2PVcc1
VREF
IN1
PC1
IN2
PC2
IN3
IN4
C51
10
C50
0.1
C41
6.3V330
R36
27K
R35
18K
R38
22K
R37
33K
TP103
TP100
TP101

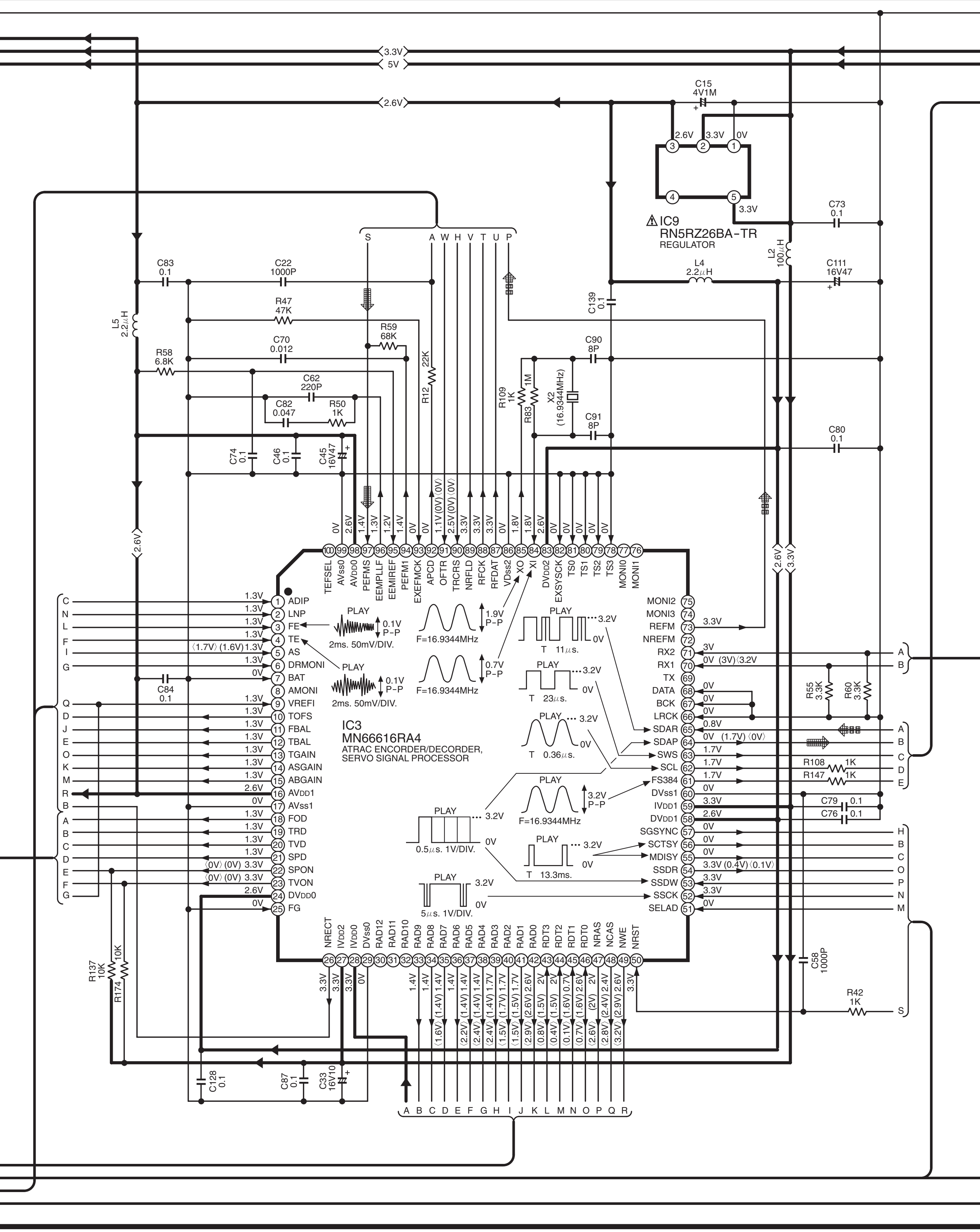
SCHEMATIC DIAGRAM-5

A MD SERVO CIRCUIT

:+B Signal Line

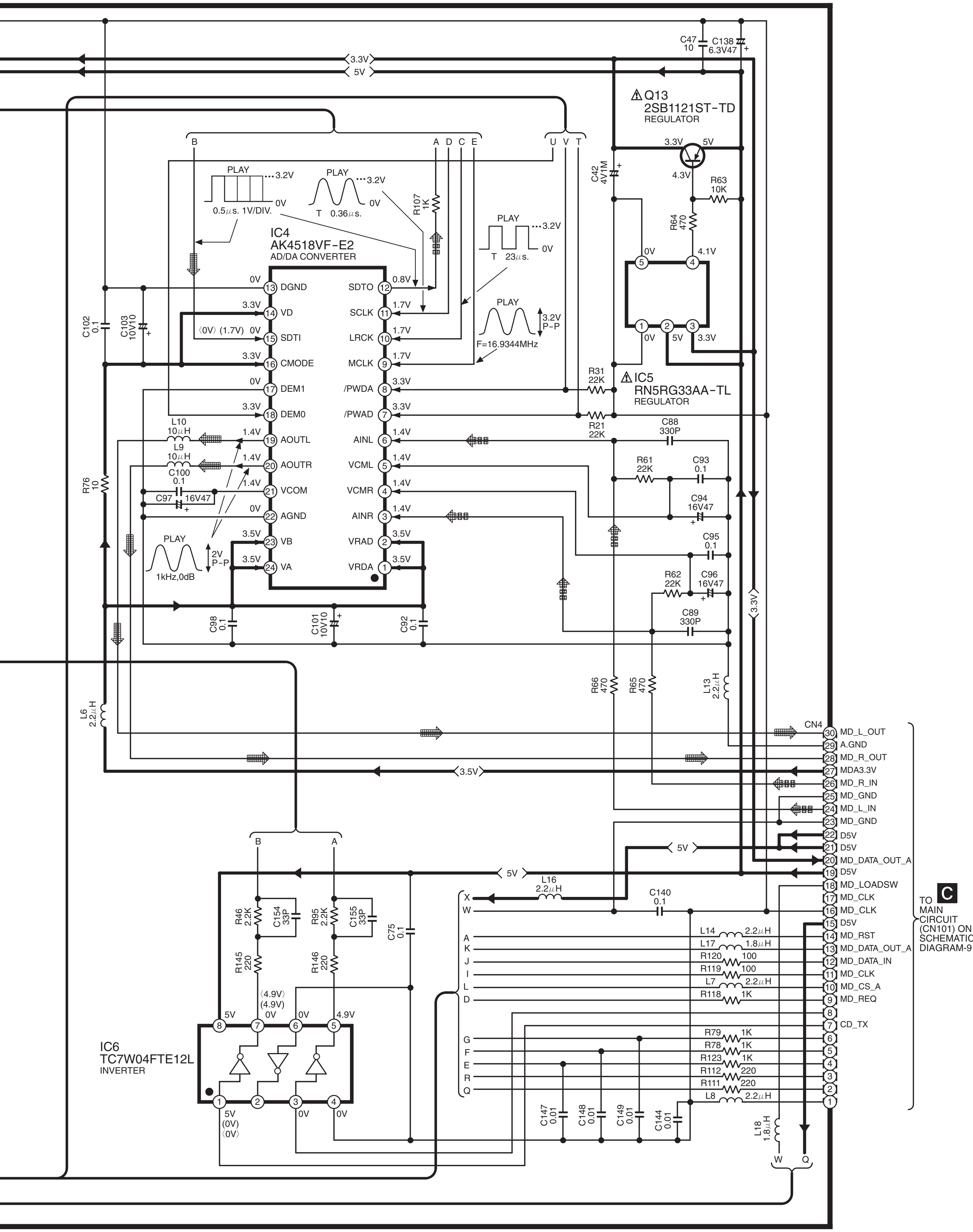
:MD Signal Line

:MD Recording Signal Line


3.3V
5V
2.6V
C15
4V1M
IC9
RN5RZ26BA-TR
REGULATOR
2.6V
3.3V
0V
3.3V
C73
0.1
L2
100μH
C111
16V47
L4
2.2μH
C139
0.1
C83
0.1
C22
1000P
L5
2.2μH
R47
47K
R59
68K
C70
0.012
R58
6.8K
R12
22K
C62
220P
C82
0.047
R50
1K
C74
0.1
C46
0.1
C45
16V47
R109
1K
R83
1M
X2
(16.9344MHz)
C90
8P
C91
8P
C80
0.1
S A W H V T U P
IC3
MN66616RA4
ATRAC ENCORDER/DECORDER,
SERVO SIGNAL PROCESSOR
ADIP
LNP
FE
TE
AS
DRMONI
BAT
AMONI
VREFI
TOFS
FBAL
TBAL
TGAIN
ASGAIN
ABGAIN
AVDD1
AVss1
FOD
TRD
TVD
SPD
SPON
TVON
DVDD0
FG
NRECT
IVDD2
IVDD0
DVss0
RAD12
RAD11
RAD10
RAD9
RAD8
RAD7
RAD6
RAD5
RAD4
RAD3
RAD2
RAD1
RAD0
RDT3
RDT2
RDT1
RDT0
NRAS
NCAS
NWE
NRST
SELAD
SSCK
SSDW
SSDR
MDISY
SCTSY
SGSYNC
DVDD1
IVDD1
DVss1
FS384
SCL
SWS
SDAP
SDAR
LRCK
BCK
DATA
TX
RX1
RX2
NREFM
REFM
MONI3
MONI2
MONI1
MONI0
TS3
TS2
TS1
TS0
EXSYSCK
DVDD2
XI
XO
VDss2
RFDAT
RFCK
NRFLD
TRCRS
OFTR
APCD
EXEFMCK
PEFM1
EEMIREF
EEMPLLF
PEFMS
AVDD0
AVss0
TEFSEL
PLAY
0.1V P-P
2ms. 50mV/DIV.
1.9V P-P
F=16.9344MHz
0.7V P-P
T 11μs.
3.2V
0V
T 23μs.
T 0.36μs.
3.2V P-P
0.5μs. 1V/DIV.
T 13.3ms.
5μs. 1V/DIV.
C84
0.1
R55
3.3K
R60
3.3K
R108
1K
R147
1K
C79
0.1
C76
0.1
C58
1000P
R42
1K
R137
10K
R174
10K
C128
0.1
C87
0.1
C33
16V10
A B C D E F G H I J K L M N O P Q R
C N L F I G Q D J E O K M R B A B C D E F G
A B A B C D E H B C O P N M S
2.6V
3.3V

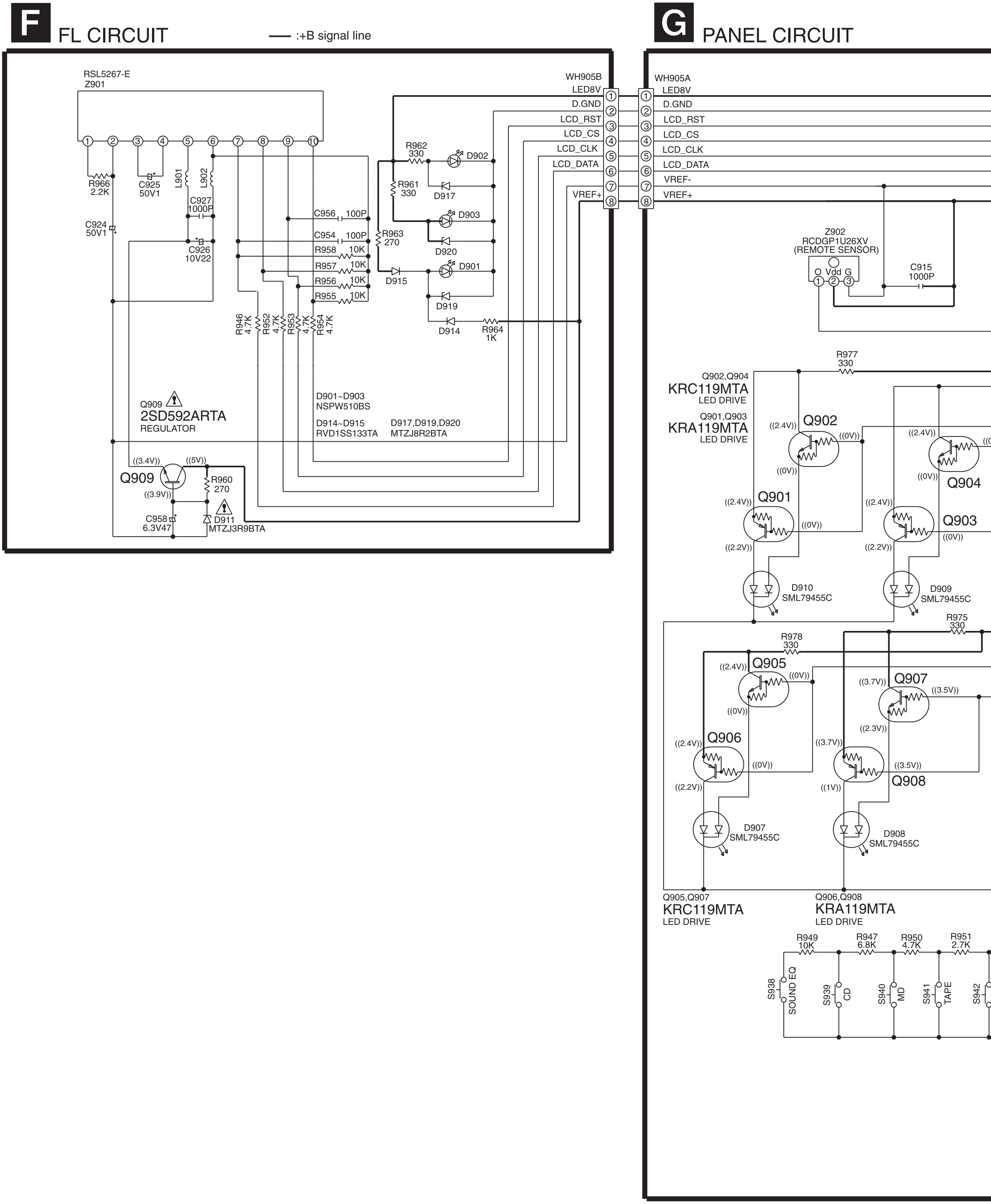
SCHEMATIC DIAGRAM-6

→ :+B Signal Line ⇨ :MD Signal Line ⇨ : MD Recording Signal Line



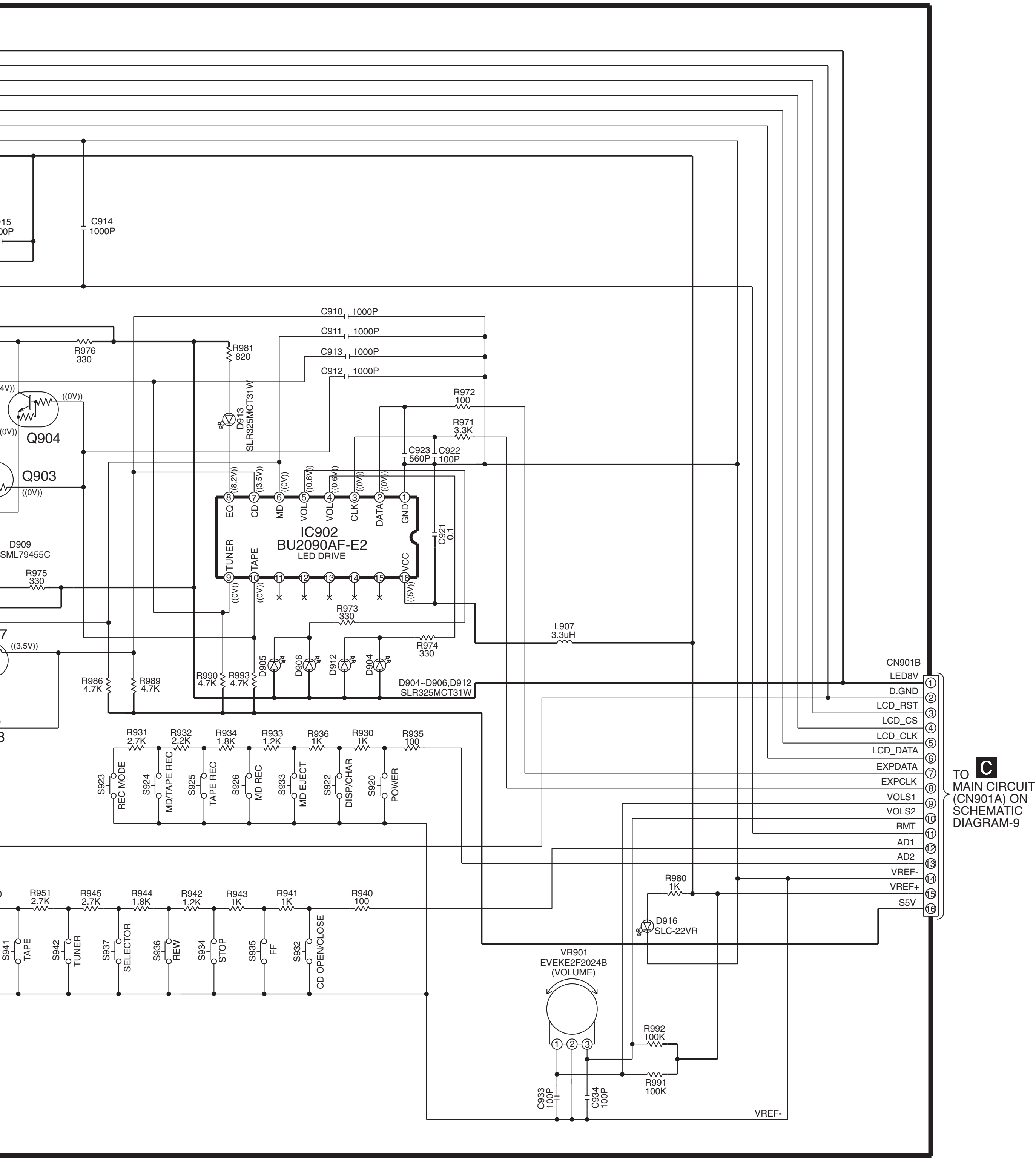
3.3V
5V
C47 10
C138 6.3V47
Q13 2SB1121ST-TD REGULATOR
B
A D C E
U V T
3.3V 5V
4.3V
C42 4V1M
R63 10K
R64 470
R107 1K
PLAY 3.2V 0V 0.5µs. 1V/DIV.
PLAY 3.2V 0V T 0.36µs.
PLAY 3.2V 0V T 23µs.
PLAY 3.2V P-P F=16.9344MHz
IC4 AK4518VF-E2 AD/DA CONVERTER
0V 13 DGND
3.3V 14 VD
〈0V〉 (1.7V) 0V 15 SDTI
3.3V 16 CMODE
0V 17 DEM1
3.3V 18 DEM0
1.4V 19 AOUTL
1.4V 20 AOUTR
1.4V 21 VCOM
0V 22 AGND
3.5V 23 VB
3.5V 24 VA
SDTO 12 0.8V
SCLK 11 1.7V
LRCK 10 1.7V
MCLK 9 1.7V
/PWDA 8 3.3V
/PWAD 7 3.3V
AINL 6 1.4V
VCML 5 1.4V
VCMR 4 1.4V
AINR 3 1.4V
VRAD 2 3.5V
VRDA 1 3.5V
0V 5 4 4.1V
1 2 3 0V 5V 3.3V
IC5 RN5RG33AA-TL REGULATOR
R31 22K
R21 22K
C88 330P
R61 22K
C93 0.1
C94 16V47
C95 0.1
R62 22K
C96 16V47
C89 330P
C102 0.1
C103 10V10
L10 10µH
L9 10µH
C100 0.1
C97 16V47
R76 10
PLAY 2V P-P 1kHz,0dB
C98 0.1
C101 10V10
C92 0.1
3.3V
R66 470
R65 470
L13 2.2µH
L6 2.2µH
CN4
3.5V
30 MD_L_OUT
29 A.GND
28 MD_R_OUT
27 MDA3.3V
26 MD_R_IN
25 MD_GND
24 MD_L_IN
23 MD_GND
22 D5V
21 D5V
20 MD_DATA_OUT_A
19 D5V
18 MD_LOADSW
17 MD_CLK
16 MD_CLK
15 D5V
14 MD_RST
13 MD_DATA_OUT_A
12 MD_DATA_IN
11 MD_CLK
10 MD_CS_A
9 MD_REQ
8
7 CD_TX
6
5
4
3
2
1
C
TO MAIN CIRCUIT (CN101) ON SCHEMATIC DIAGRAM-9
5V
B A
5V
L16 2.2µH
X W A K J I L D G F E R Q
C140 0.1
L14 2.2µH
L17 1.8µH
R120 100
R119 100
L7 2.2µH
R118 1K
R79 1K
R78 1K
R123 1K
R112 220
R111 220
L8 2.2µH
R46 2.2K
C154 33P
R95 2.2K
C155 33P
C75 0.1
R145 220
R146 220
(4.9V) (4.9V) 0V 0V 4.9V
5V 8 7 6 5
IC6 TC7W04FTE12L INVERTER
1 2 3 4
5V (0V) 〈0V〉 0V 0V
C147 0.01
C148 0.01
C149 0.01
C144 0.01
L18 1.8µH
W Q

SCHEMATIC DIAGRAM-10


F
FL CIRCUIT
:+B signal line
RSL5267-E
Z901
R966
2.2K
C925
50V1
L901
L902
C927
1000P
C924
50V1
C926
10V22
C956 100P
C954 100P
R958 10K
R957 10K
R956 10K
R955 10K
R963
270
R962
330
R961
330
D902
D917
D903
D920
D915
D901
D919
D914
R964
1K
R946
4.7K
R952
4.7K
R953
4.7K
R954
4.7K
WH905B
LED8V
D.GND
LCD_RST
LCD_CS
LCD_CLK
LCD_DATA
VREF+
Q909
2SD592ARTA
REGULATOR
D901~D903
NSPW510BS
D914~D915
RVD1SS133TA
D917,D919,D920
MTZJ8R2BTA
((3.4V))
((5V))
Q909
R960
270
((3.9V))
C958
6.3V47
D911
MTZJ3R9BTA
G
PANEL CIRCUIT
WH905A
LED8V
D.GND
LCD_RST
LCD_CS
LCD_CLK
LCD_DATA
VREF-
VREF+
Z902
RCDGP1U26XV
(REMOTE SENSOR)
O Vdd G
C915
1000P
R977
330
Q902,Q904
KRC119MTA
LED DRIVE
Q901,Q903
KRA119MTA
LED DRIVE
Q902
((2.4V))
((0V))
((0V))
Q904
((2.4V))
((0V))
Q901
((2.4V))
((0V))
((2.2V))
Q903
((2.4V))
((0V))
((2.2V))
D910
SML79455C
D909
SML79455C
R975
330
R978
330
Q905
((2.4V))
((0V))
((0V))
Q907
((3.7V))
((3.5V))
((2.3V))
Q906
((2.4V))
((0V))
((2.2V))
((3.7V))
((3.5V))
((1V))
Q908
D907
SML79455C
D908
SML79455C
Q905,Q907
KRC119MTA
LED DRIVE
Q906,Q908
KRA119MTA
LED DRIVE
R949
10K
R947
6.8K
R950
4.7K
R951
2.7K
S938
SOUND EQ
S939
CD
S940
MD
S941
TAPE
S942

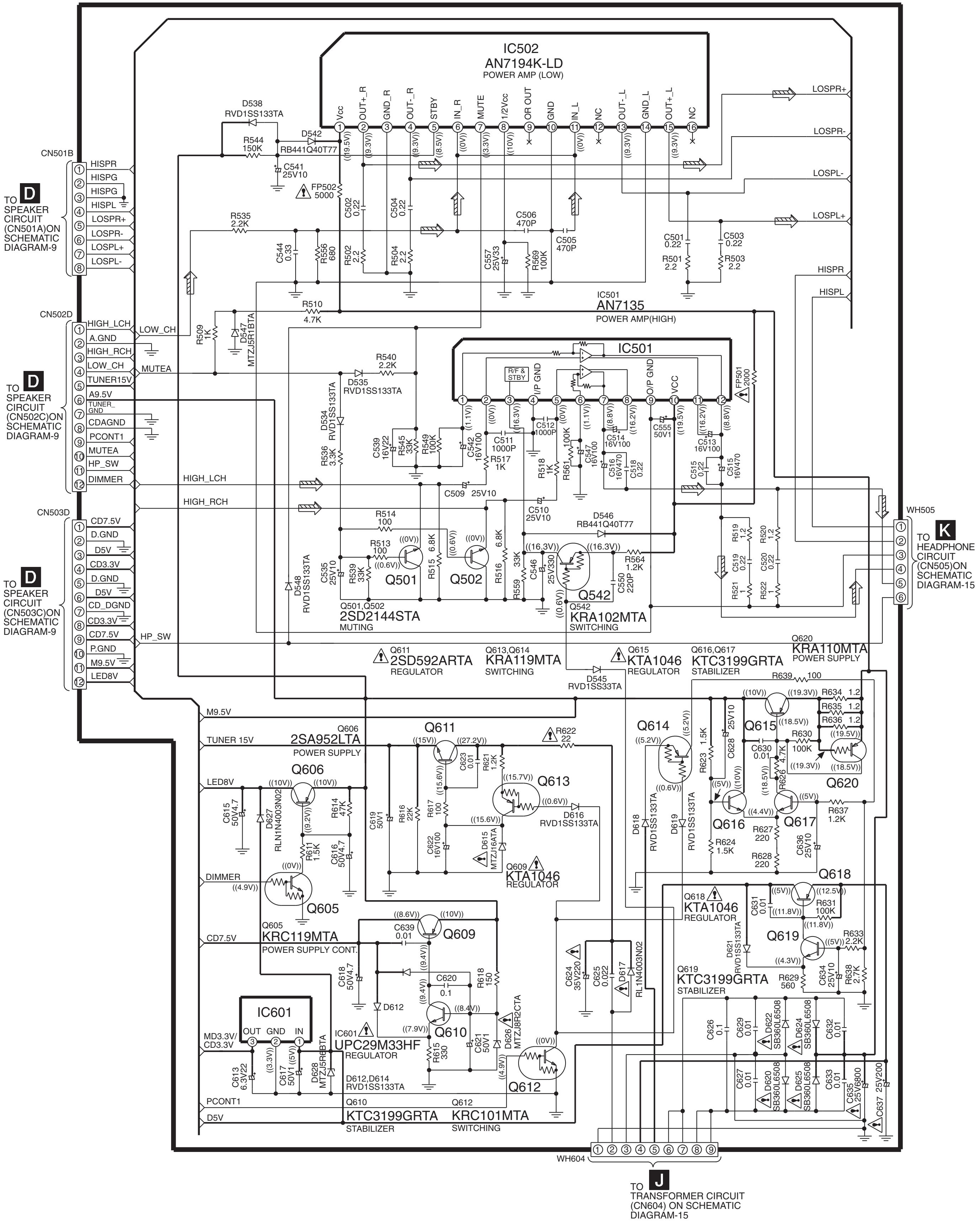
SCHEMATIC DIAGRAM-11

:+B signal line


015
00P
C914
1000P
C910 1000P
C911 1000P
C913 1000P
C912 1000P
R976
330
R981
820
D913
SLR325MCT31W
4V))
((0V))
(0V))
Q904
Q903
((0V))
R972
100
R971
3.3K
C923
560P
C922
100P
((8.2V))
((3.5V))
((0V))
((0.6V))
((0.6V))
((0V))
((0V))
8 EQ
7 CD
6 MD
5 VOL
4 VOL
3 CLK
2 DATA
1 GND
IC902
BU2090AF-E2
LED DRIVE
9 TUNER
10 TAPE
11
12
13
14
15
16 VCC
((0V))
((0V))
((5V))
C921
0.1
D909
SML79455C
R975
330
R973
330
R974
330
L907
3.3uH
7
((3.5V))
R986
4.7K
R989
4.7K
R990
4.7K
R993
4.7K
D905
D906
D912
D904
D904~D906,D912
SLR325MCT31W
3
CN901B
LED8V ①
D.GND ②
LCD_RST ③
LCD_CS ④
LCD_CLK ⑤
LCD_DATA ⑥
EXPDATA ⑦
EXPCLK ⑧
VOLS1 ⑨
VOLS2 ⑩
RMT ⑪
AD1 ⑫
AD2 ⑬
VREF- ⑭
VREF+ ⑮
S5V ⑯
TO C
MAIN CIRCUIT
(CN901A) ON
SCHEMATIC
DIAGRAM-9
R931
2.7K
R932
2.2K
R934
1.8K
R933
1.2K
R936
1K
R930
1K
R935
100
S923 REC MODE
S924 MD/TAPE REC
S925 TAPE REC
S926 MD REC
S933 MD EJECT
S922 DISP/CHAR
S920 POWER
R951
2.7K
R945
2.7K
R944
1.8K
R942
1.2K
R943
1K
R941
1K
R940
100
S941 TAPE
S942 TUNER
S937 SELECTOR
S936 REW
S934 STOP
S935 FF
S932 CD OPEN/CLOSE
R980
1K
D916
SLC-22VR
VR901
EVEKE2F2024B
(VOLUME)
①
②
③
R992
100K
R991
100K
C933
100P
C934
100P
VREF-

I POWER CIRCUIT

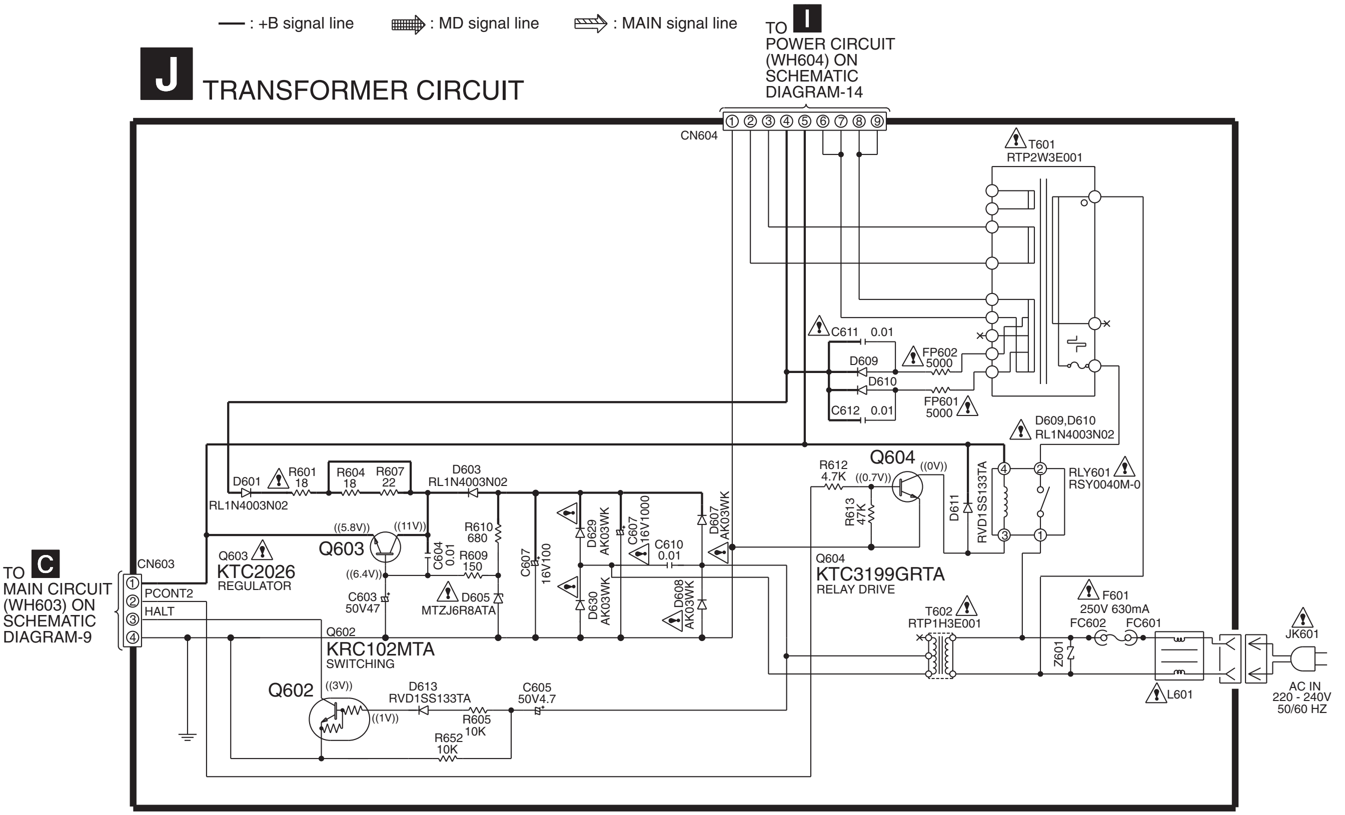
: +B signal line : MAIN signal line


IC502
AN7194K-LD
POWER AMP (LOW)
Vcc
OUT+_R
GND_R
OUT-_R
STBY
IN_R
MUTE
1/2Vcc
OR OUT
GND
IN_L
NC
OUT-_L
GND_L
OUT+_L
NC
((19.5V))
((9.3V))
((9.3V))
((8.5V))
((0V))
((3.3V))
((10V))
((0V))
((9.3V))
((9.3V))
D538
RVD1SS133TA
R544
150K
D542
RB441Q40T77
C541
25V10
FP502
5000
C502
0.22
C504
0.22
C506
470P
C505
470P
R535
2.2K
C544
0.33
R556
680
R502
2.2
R504
2.2
C557
25V33
R569
100K
C501
0.22
C503
0.22
R501
2.2
R503
2.2
LOSPR+
LOSPR-
LOSPL-
LOSPL+
HISPR
HISPL
CN501B
HISPR
HISPG
HISPG
HISPL
LOSPR+
LOSPR-
LOSPL+
LOSPL-
TO D SPEAKER CIRCUIT (CN501A)ON SCHEMATIC DIAGRAM-9
CN502D
HIGH_LCH
A.GND
HIGH_RCH
LOW_CH
TUNER15V
A9.5V
TUNER_GND
CDAGND
PCONT1
MUTEA
HP_SW
DIMMER
LOW_CH
MUTEA
TO D SPEAKER CIRCUIT (CN502C)ON SCHEMATIC DIAGRAM-9
IC501
AN7135
POWER AMP(HIGH)
R510
4.7K
R509
1K
D547
MTZJ5R1BTA
R540
2.2K
D535
RVD1SS133TA
D534
RVD1SS133TA
R536
3.3K
C539
16V22
R545
33K
R549
100K
C542
16V100
R517
1K
C511
1000P
C512
1000P
R518
1K
R561
100K
C547
16V100
C514
16V100
C516
16V470
C518
0.22
C555
50V1
C513
16V100
C515
0.22
C515
16V470
FP501
2000
R/F & STBY
I/P GND
O/P GND
VCC
((1.1V))
((0V))
((16.3V))
((0V))
((1.1V))
((8.8V))
((16.2V))
((19.5V))
((16.2V))
((8.8V))
HIGH_LCH
HIGH_RCH
C509 25V10
C510
25V10
D546
RB441Q40T77
R514
100
R513
100
((0V))
((0V))
((0.6V))
((0.6V))
R515
6.8K
6.8K
R516
6.8K
33K
C535
25V10
R539
33K
Q501
Q502
R559
C546
25V330
((16.3V))
((16.3V))
R564
1.2K
C550
220P
Q542
((0.6V))
D548
RVD1SS133TA
Q501,Q502
2SD2144STA
MUTING
Q542
KRA102MTA
SWITCHING
CN503D
CD7.5V
D.GND
D5V
CD3.3V
D.GND
D5V
CD_DGND
CD3.3V
CD7.5V
P.GND
M9.5V
LED8V
HP_SW
TO D SPEAKER CIRCUIT (CN503C)ON SCHEMATIC DIAGRAM-9
R519
1.2
R520
1.2
C519
0.22
C520
0.22
R521
1
R522
1
WH505
TO K HEADPHONE CIRCUIT (CN505)ON SCHEMATIC DIAGRAM-15
Q611
2SD592ARTA
REGULATOR
Q613,Q614
KRA119MTA
SWITCHING
Q615
KTA1046
REGULATOR
Q616,Q617
KTC3199GRTA
STABILIZER
Q620
KRA110MTA
POWER SUPPLY
D545
RVD1SS33TA
R639
100
M9.5V
TUNER 15V
Q606
2SA952LTA
POWER SUPPLY
Q611
((15V))
((27.2V))
C623
0.01
R621
1.2K
R622
22
((15.6V))
((15.7V))
Q613
((0.6V))
D616
RVD1SS133TA
((15.6V))
R616
22K
R617
100
C619
50V1
C622
16V100
D615
MTZJ16ATA
Q609
KTA1046
REGULATOR
LED8V
Q606
((10V))
((10V))
C615
50V4.7
D627
RLN4003N02
((9.2V))
R614
47K
R611
1.5K
C616
50V4.7
DIMMER
((0V))
((4.9V))
Q605
Q605
KRC119MTA
POWER SUPPLY CONT.
CD7.5V
((8.6V))
((10V))
C639
0.01
Q609
C618
50V4.7
((9.4V))
C620
0.1
R618
150
D612
((9.4V))
((8.4V))
((7.9V))
Q610
D626
MTZJ8R2CTA
R615
330
C621
50V1
((4.9V))
((0V))
Q612
IC601
OUT GND IN
MD3.3V/ CD3.3V
IC601
UPC29M33HF
REGULATOR
((3.3V))
((5V))
C613
6.3V22
C617
50V1
D628
MTZJ5R6BTA
D612,D614
RVD1SS133TA
PCONT1
D5V
Q610
KTC3199GRTA
STABILIZER
Q612
KRC101MTA
SWITCHING
C624
35V220
C625
0.022
D617
RL1N4003N02
Q614
((5.2V))
((5.2V))
((0.6V))
D618
RVD1SS133TA
D619
RVD1SS133TA
R623
1.5K
C628
25V10
((10V))
((19.3V))
Q615
((18.5V))
R634
1.2
R635
1.2
R636
1.2
R630
100K
((19.5V))
C630
0.01
R626
4.7K
((19.3V))
((18.5V))
Q620
((5V))
((10V))
((18.5V))
((5V))
Q616
((4.4V))
Q617
R637
1.2K
R624
1.5K
R627
220
R628
220
C636
25V10
Q618
Q618
KTA1046
REGULATOR
((5V))
((12.5V))
C631
0.01
((11.8V))
R631
100K
((11.8V))
Q619
R633
2.2K
D621
RVD1SS133TA
((5V))
((4.3V))
Q619
KTC3199GRTA
STABILIZER
R629
560
C634
25V10
R638
2.7K
C626
0.1
C629
0.01
D622
SB360L6508
D624
SB360L6508
C632
0.01
C627
0.01
D620
SB360L6508
D625
SB360L6508
C633
0.01
C635
25V6800
C637
25V200
WH604
TO J TRANSFORMER CIRCUIT (CN604) ON SCHEMATIC DIAGRAM-15

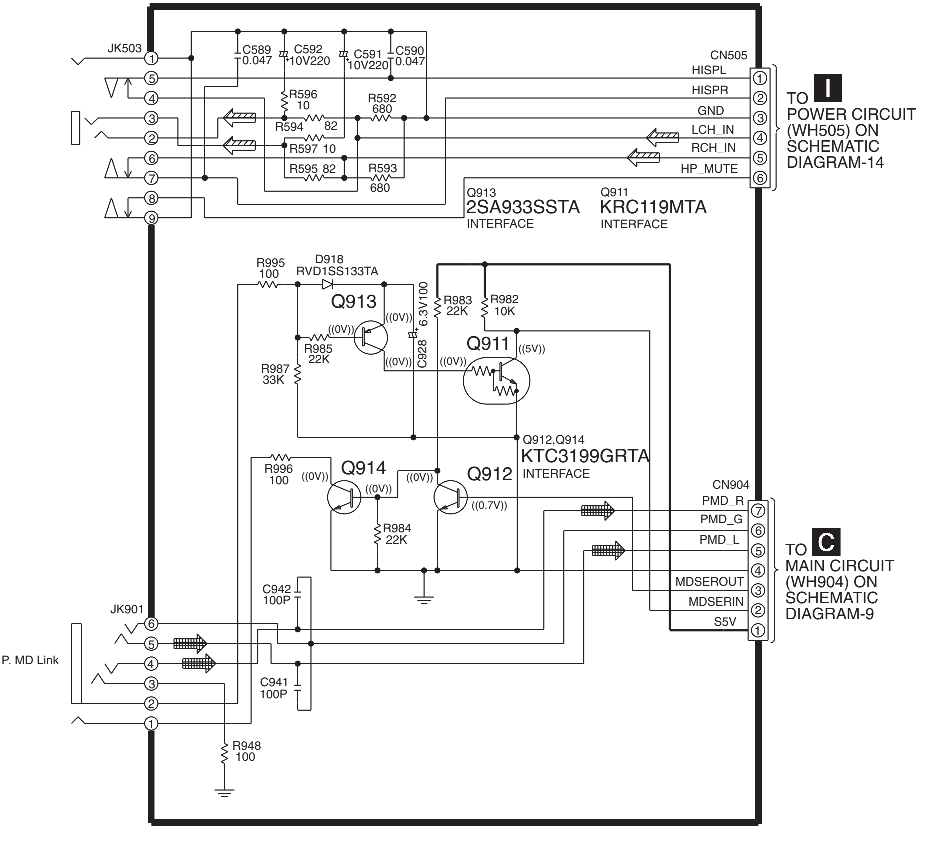
SCHEMATIC DIAGRAM-15

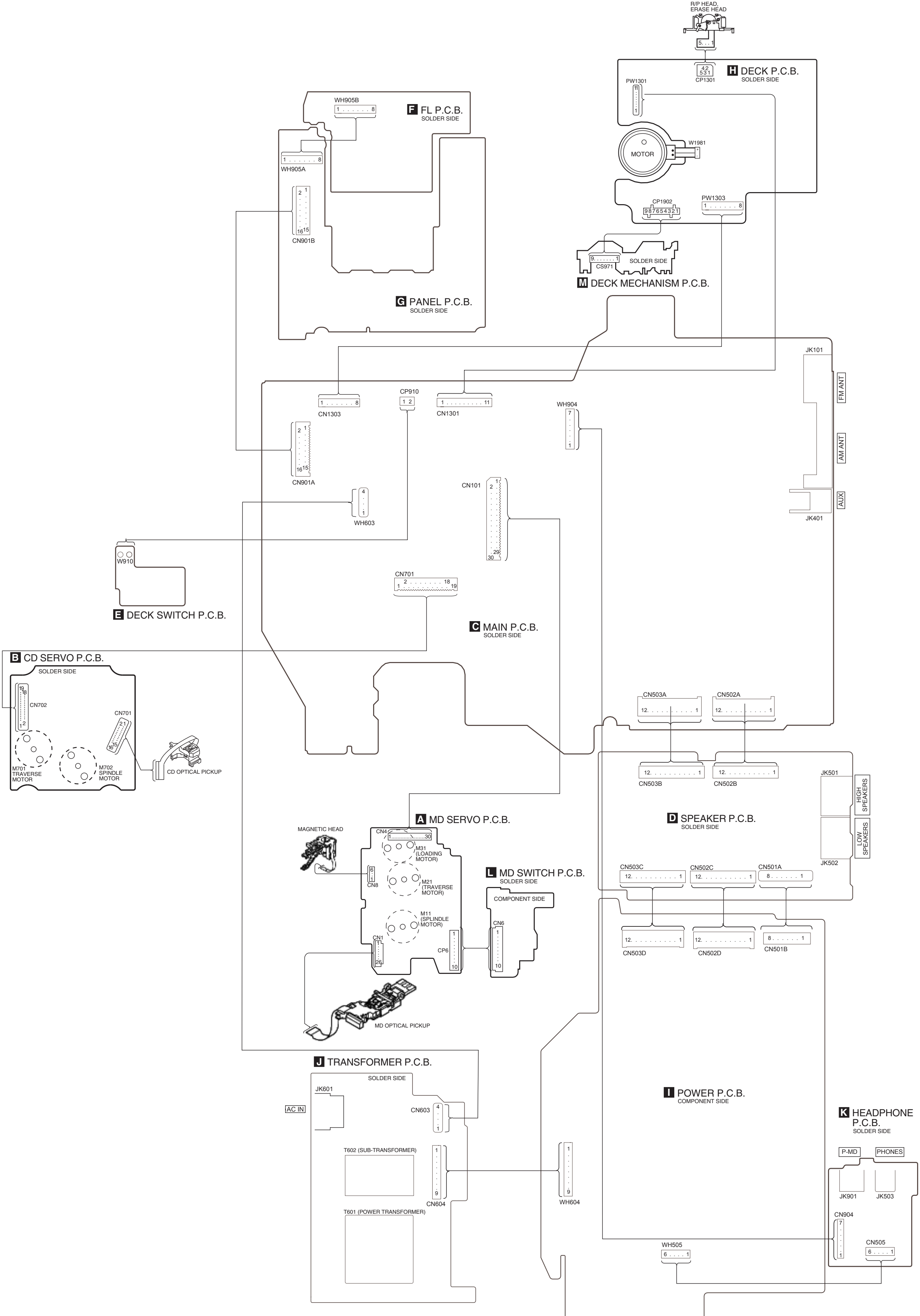
— : +B signal line ▨ : MD signal line ▨ : MAIN signal line

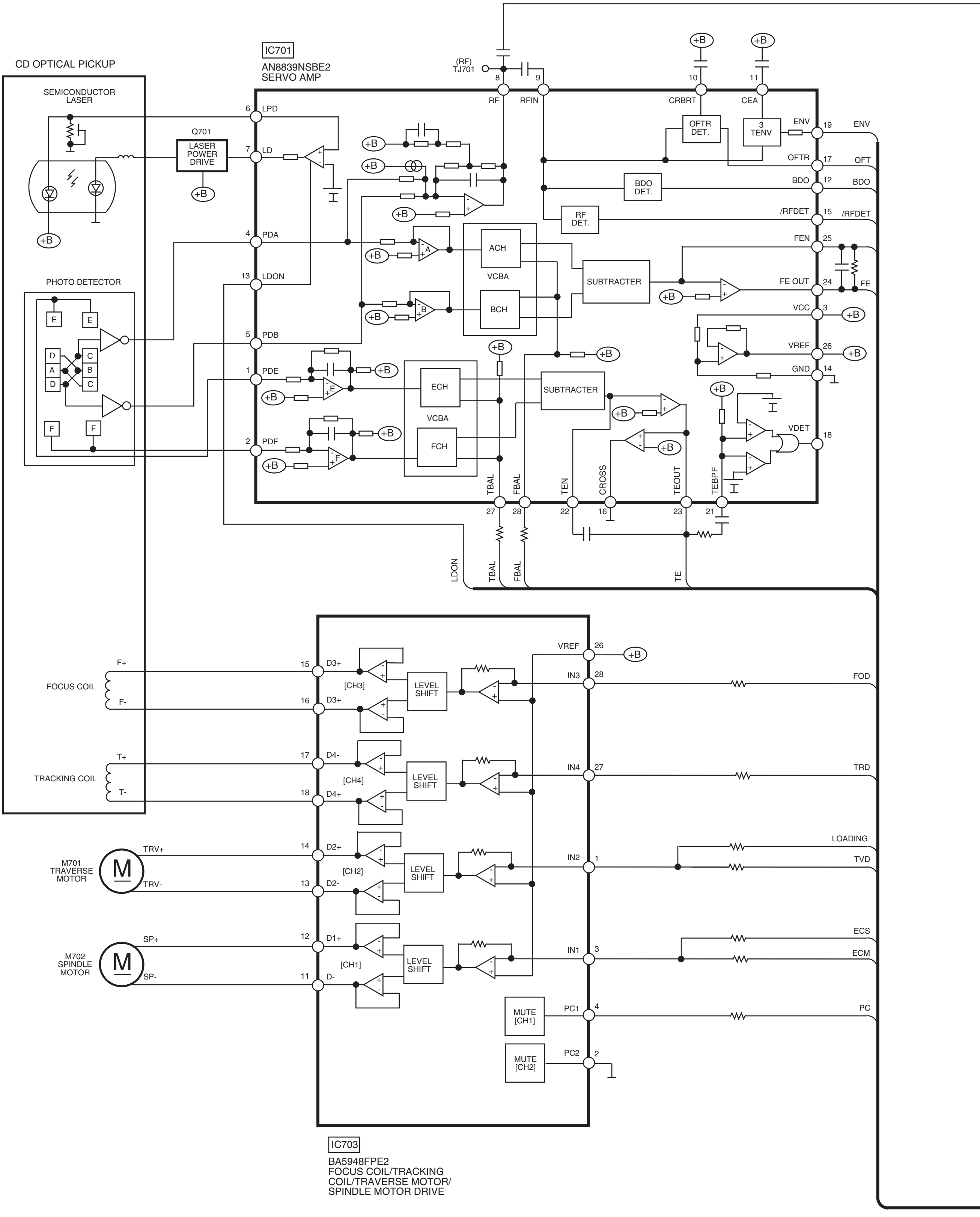
J TRANSFORMER CIRCUIT

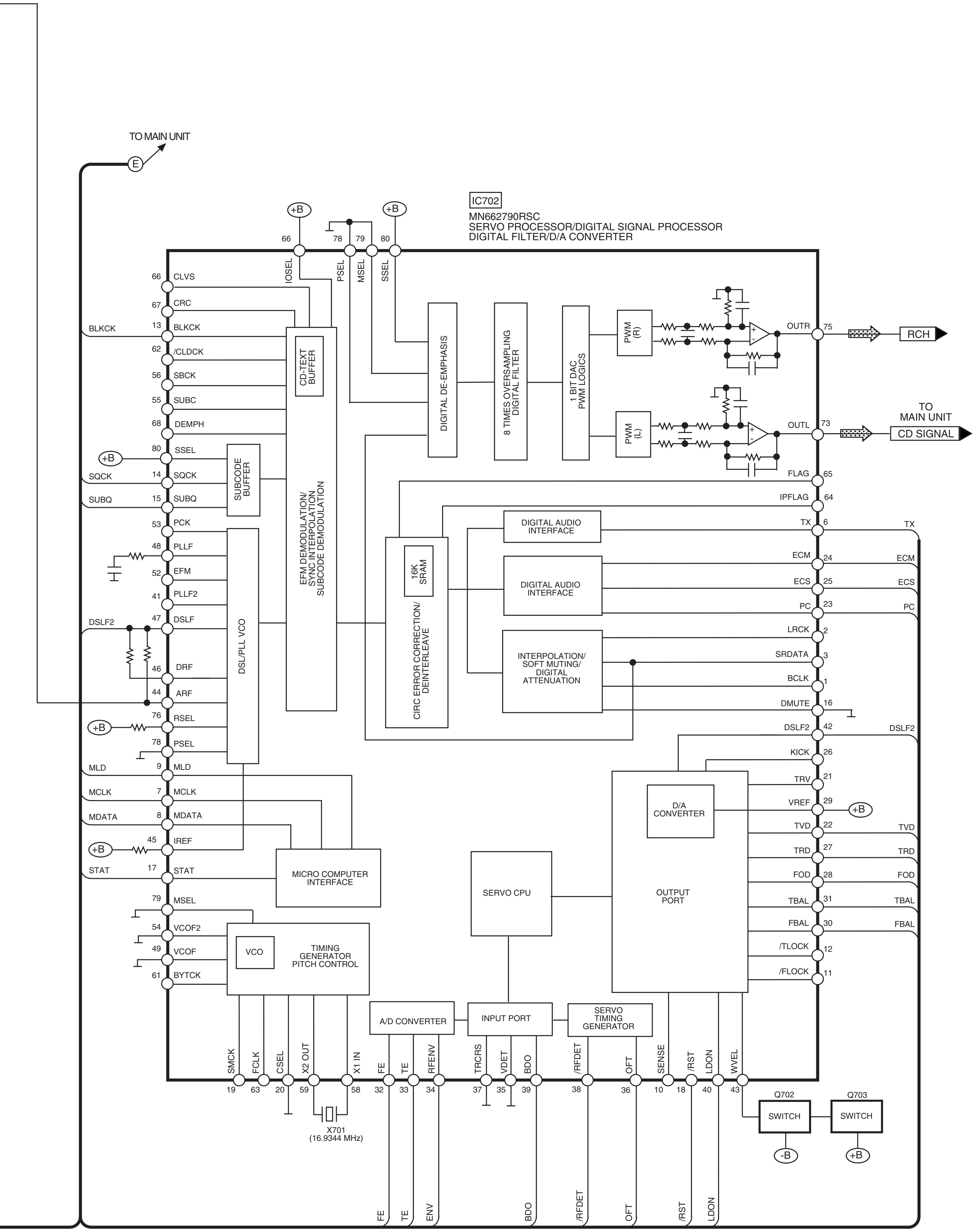

TO I
POWER CIRCUIT
(WH604) ON
SCHEMATIC
DIAGRAM-14
CN604
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
T601
RTP2W3E001
C611 0.01
D609
FP602
5000
D610
C612 0.01
FP601
5000
D609,D610
RL1N4003N02
Q604
((0V))
R612
4.7K
((0.7V))
R613
47K
D611
RVD1SS133TA
RLY601
RSY0040M-0
Q604
KTC3199GRTA
RELAY DRIVE
D601
R601
18
R604
18
R607
22
D603
RL1N4003N02
RL1N4003N02
((5.8V))
((11V))
Q603
R610
680
C604
0.01
R609
150
C607
16V100
D629
AK03WK
C607
16V1000
C610
0.01
D607
AK03WK
D630
AK03WK
D608
AK03WK
TO C
MAIN CIRCUIT
(WH603) ON
SCHEMATIC
DIAGRAM-9
CN603
① ② ③ ④
PCONT2
HALT
Q603
KTC2026
REGULATOR
((6.4V))
C603
50V47
D605
MTZJ6R8ATA
Q602
KRC102MTA
SWITCHING
Q602
((3V))
((1V))
D613
RVD1SS133TA
R605
10K
C605
50V4.7
R652
10K
F601
250V 630mA
FC602
FC601
T602
RTP1H3E001
Z601
JK601
L601
AC IN
220 - 240V
50/60 HZ

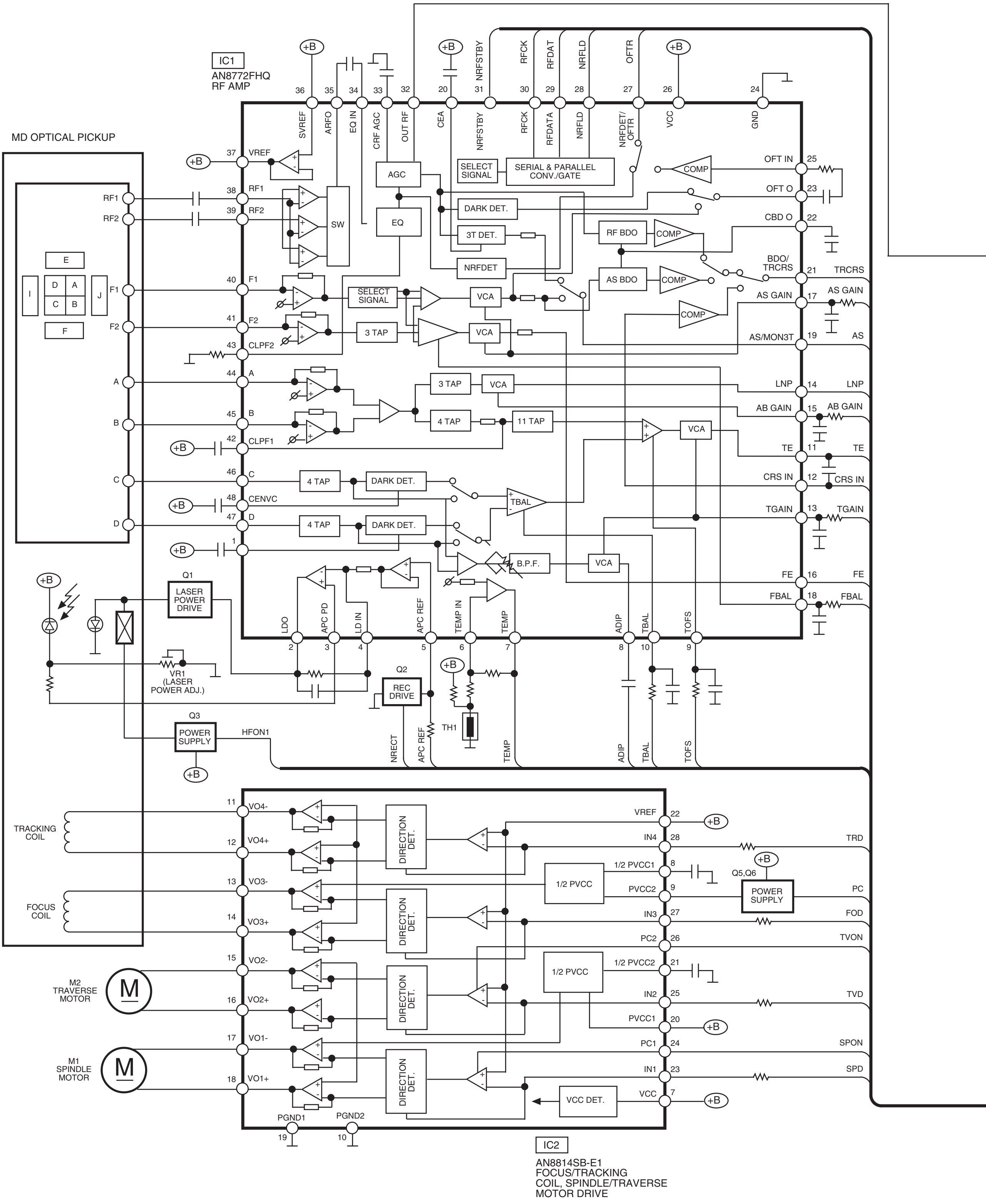
K HEADPHONE CIRCUIT

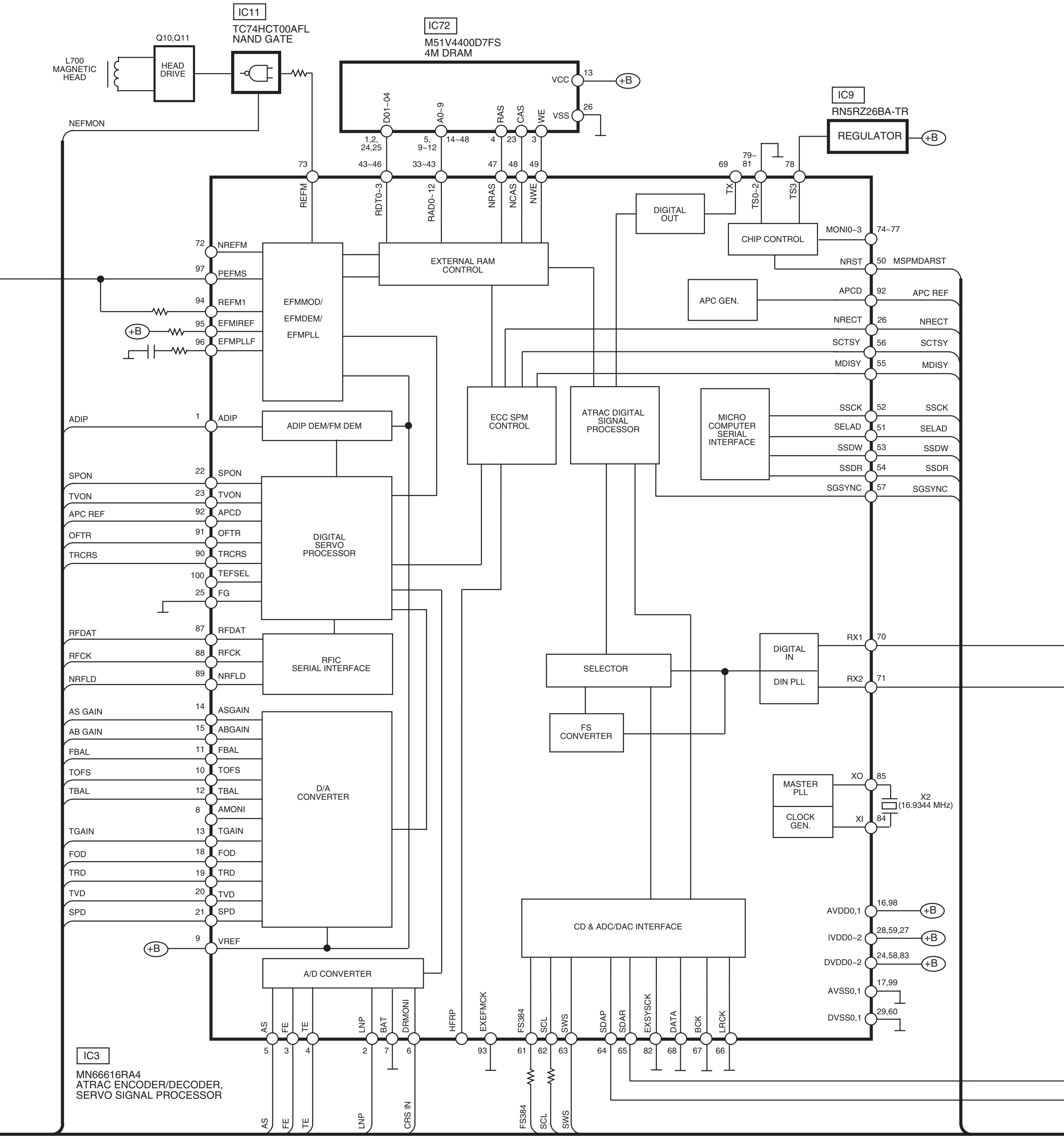

JK503
① ⑤ ④ ③ ② ⑥ ⑦ ⑧ ⑨
C589
0.047
C592
10V220
C591
10V220
C590
0.047
R596
10
R592
680
R594 82
R597 10
R595 82
R593
680
CN505
HISPL
HISPR
GND
LCH_IN
RCH_IN
HP_MUTE
① ② ③ ④ ⑤ ⑥
TO I
POWER CIRCUIT
(WH505) ON
SCHEMATIC
DIAGRAM-14
Q913
2SA933SSTA
INTERFACE
Q911
KRC119MTA
INTERFACE
R995
100
D918
RVD1SS133TA
Q913
((0V))
((0V))
R985
22K
((0V))
R987
33K
C928
6.3V100
((0V))
R983
22K
R982
10K
Q911
((5V))
Q912,Q914
KTC3199GRTA
INTERFACE
R996
100
((0V))
Q914
((0V))
((0V))
Q912
((0.7V))
R984
22K
CN904
PMD_R
PMD_G
PMD_L
MDSEROUT
MDSERIN
S5V
⑦ ⑥ ⑤ ④ ③ ② ①
TO C
MAIN CIRCUIT
(WH904) ON
SCHEMATIC
DIAGRAM-9
C942
100P
JK901
⑥ ⑤ ④ ③ ② ①
P. MD Link
C941
100P
R948
100

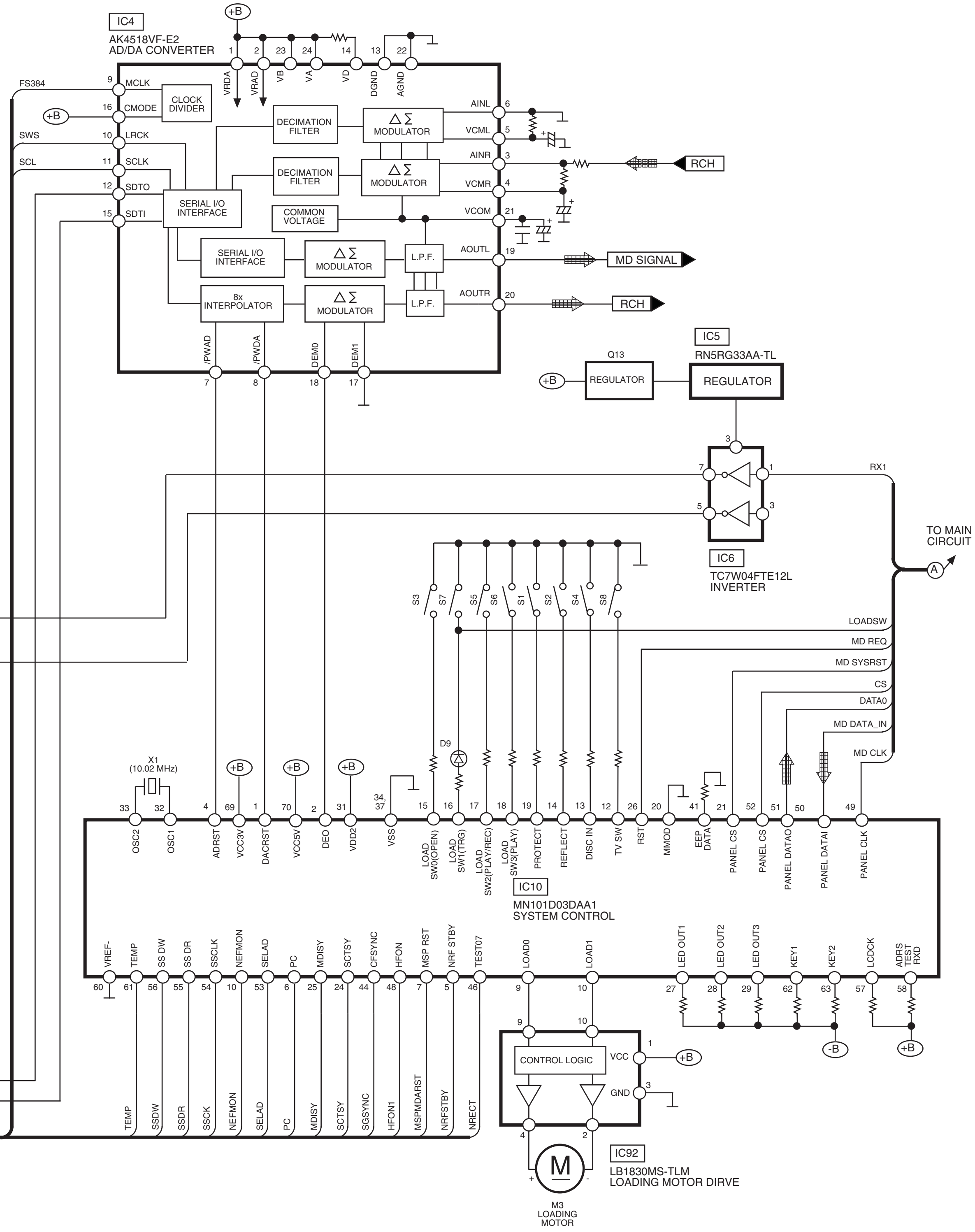

R/P HEAD, ERASE HEAD
5 . . . 1
4 2
5 3 1
CP1301
H DECK P.C.B.
SOLDER SIDE
PW1301
11
1
W1981
MOTOR
CP1902
9 8 7 6 5 4 3 2 1
PW1303
1 8
9 1
CS971
SOLDER SIDE
M DECK MECHANISM P.C.B.
WH905B
1 8
F FL P.C.B.
SOLDER SIDE
1 8
WH905A
2 1
16 15
CN901B
G PANEL P.C.B.
SOLDER SIDE
JK101
FM ANT
AM ANT
AUX
JK401
CP910
1 2
1 8
CN1303
1 11
CN1301
WH904
7
1
2 1
16 15
CN901A
CN101
2 1
29
30
4
1
WH603
W910
E DECK SWITCH P.C.B.
CN701
2 18
1 19
C MAIN P.C.B.
SOLDER SIDE
B CD SERVO P.C.B.
SOLDER SIDE
19 18
CN702
1 2
CN701
21
16 15
M701 TRAVERSE MOTOR
M702 SPINDLE MOTOR
CD OPTICAL PICKUP
CN503A
12. 1
CN502A
12. 1
12. 1
CN503B
12. 1
CN502B
JK501
HIGH SPEAKERS
LOW SPEAKERS
JK502
D SPEAKER P.C.B.
SOLDER SIDE
CN503C
12. 1
CN502C
12. 1
CN501A
8 1
12. 1
CN503D
12. 1
CN502D
8 1
CN501B
A MD SERVO P.C.B.
MAGNETIC HEAD
CN4
1 30
M31 (LOADING MOTOR)
6
1
CN8
M21 (TRAVERSE MOTOR)
M11 (SPLINDLE MOTOR)
CN1
1
26
CP6
1
10
L MD SWITCH P.C.B.
SOLDER SIDE
COMPONENT SIDE
CN6
1
10
MD OPTICAL PICKUP
J TRANSFORMER P.C.B.
SOLDER SIDE
JK601
AC IN
CN603
4
1
T602 (SUB-TRANSFORMER)
1
9
CN604
T601 (POWER TRANSFORMER)
1
9
WH604
I POWER P.C.B.
COMPONENT SIDE
K HEADPHONE P.C.B.
SOLDER SIDE
P-MD
PHONES
JK901
JK503
CN904
7
1
CN505
6 1
WH505
6 1

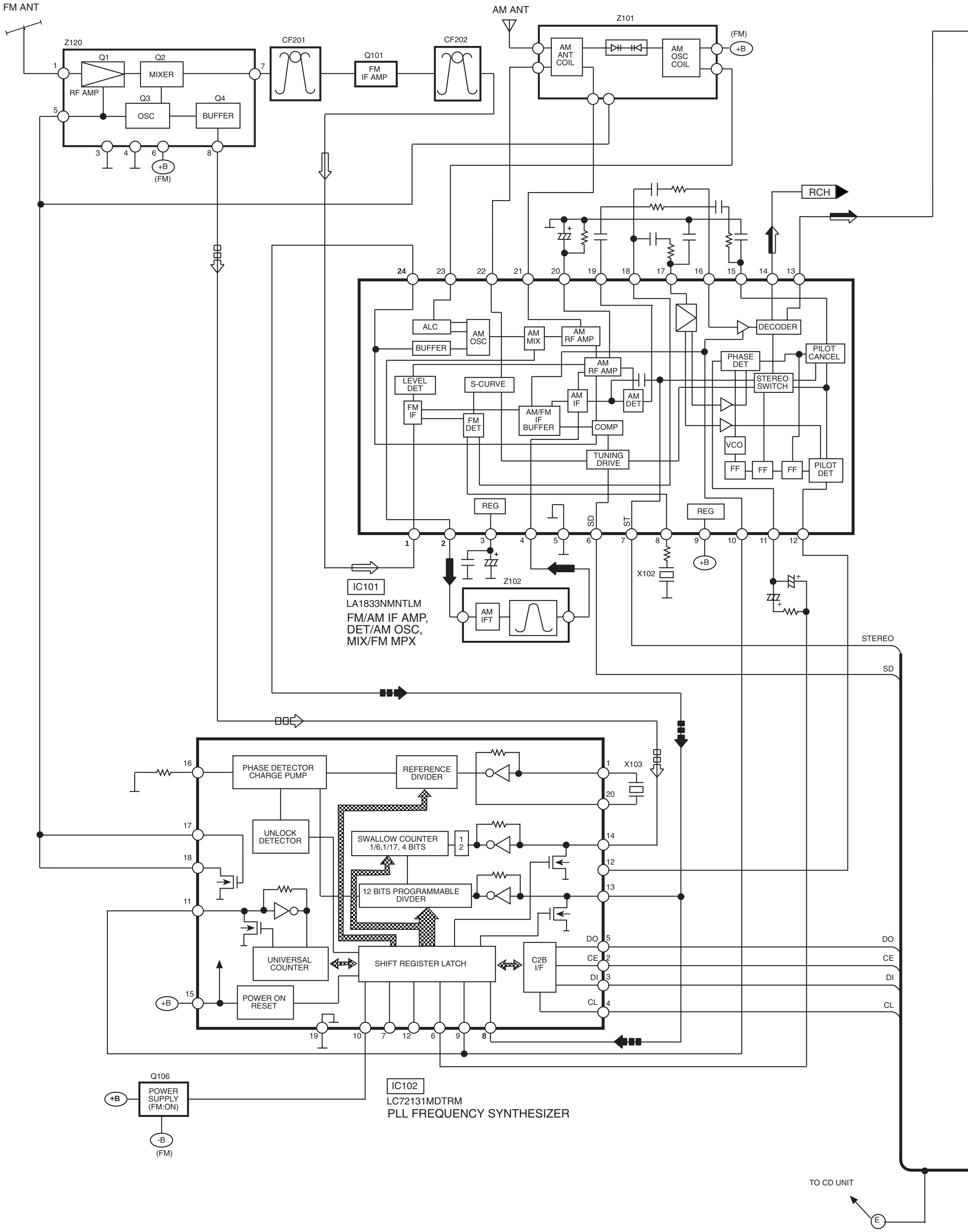

CD OPTICAL PICKUP
SEMICONDUCTOR LASER
PHOTO DETECTOR
E
E
D
A
D
C
B
C
F
F
+B
Q701
LASER POWER DRIVE
IC701
AN8839NSBE2
SERVO AMP
(RF)
TJ701
8 RF
9 RFIN
10 CRBRT
11 CEA
6 LPD
7 LD
4 PDA
13 LDON
5 PDB
1 PDE
2 PDF
OFTR DET.
3 TENV
ENV 19 ENV
OFTR 17 OFT
BDO DET.
BDO 12 BDO
RF DET.
/RFDET 15 /RFDET
FEN 25
FE OUT 24 FE
VCC 3
VREF 26
GND 14
VDET 18
A
B
E
F
ACH
BCH
VCBA
ECH
FCH
VCBA
SUBTRACTER
SUBTRACTER
TBAL 27
FBAL 28
TEN 22
CROSS 16
TEOUT 23
TEBPF 21
LDON
TBAL
FBAL
TE
FOCUS COIL
F+
F-
TRACKING COIL
T+
T-
M701 TRAVERSE MOTOR
TRV+
TRV-
M702 SPINDLE MOTOR
SP+
SP-
15 D3+
16 D3+
[CH3]
17 D4-
18 D4+
[CH4]
14 D2+
13 D2-
[CH2]
12 D1+
11 D-
[CH1]
LEVEL SHIFT
VREF 26
IN3 28 FOD
IN4 27 TRD
IN2 1
LOADING
TVD
IN1 3
ECS
ECM
MUTE [CH1]
PC1 4 PC
MUTE [CH2]
PC2 2
IC703
BA5948FPE2
FOCUS COIL/TRACKING COIL/TRAVERSE MOTOR/ SPINDLE MOTOR DRIVE

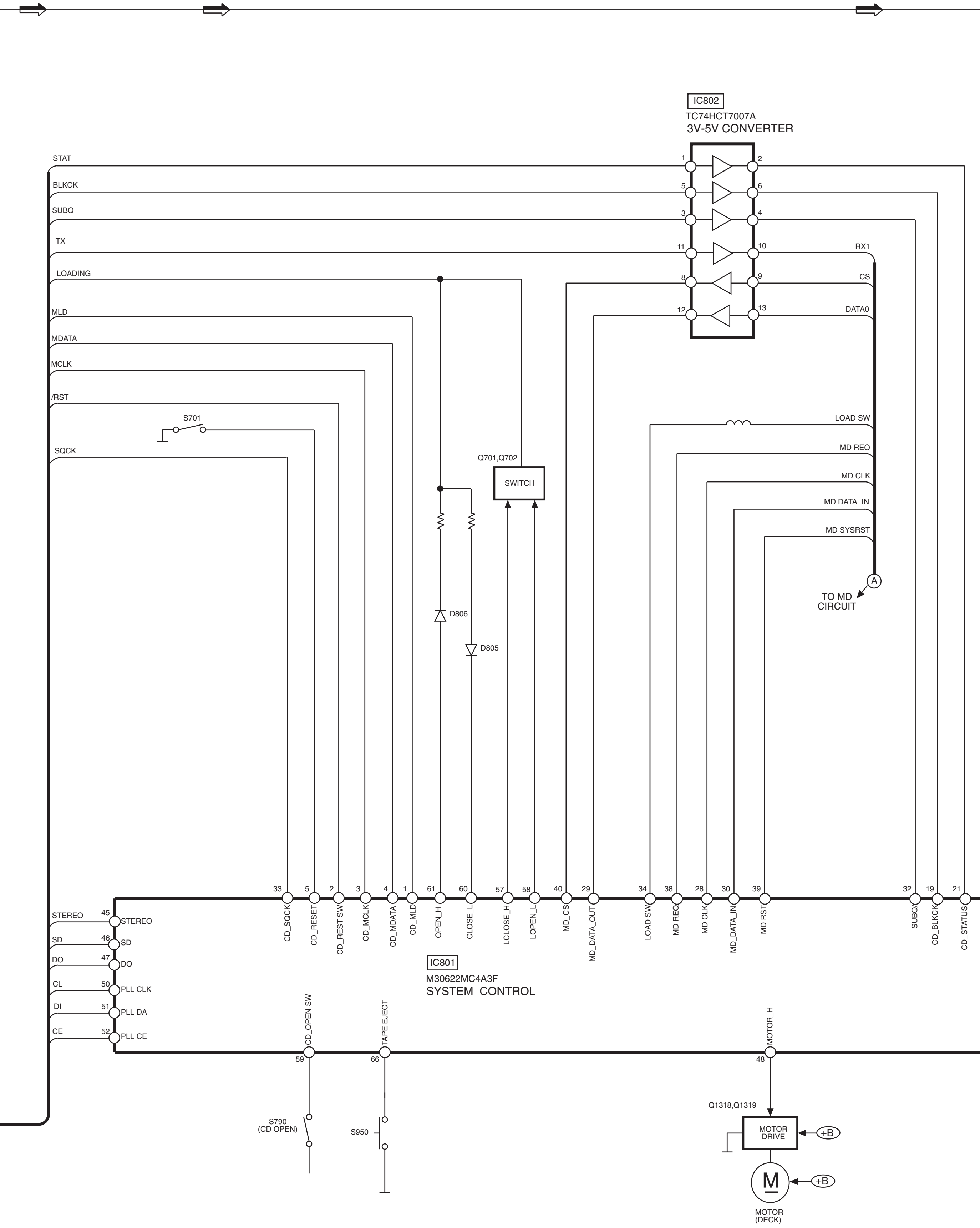

TO MAIN UNIT
E
IC702
MN662790RSC
SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR
DIGITAL FILTER/D/A CONVERTER
+B
66
78
79
80
+B
IOSEL
PSEL
MSEL
SSEL
66 CLVS
67 CRC
BLKCK
13 BLKCK
62 /CLDCK
56 SBCK
55 SUBC
68 DEMPH
80 SSEL
+B
SQCK
14 SQCK
SUBQ
15 SUBQ
53 PCK
48 PLLF
52 EFM
41 PLLF2
DSLF2
47 DSLF
46 DRF
44 ARF
+B
76 RSEL
78 PSEL
MLD
9 MLD
MCLK
7 MCLK
MDATA
8 MDATA
+B
45 IREF
STAT
17 STAT
79 MSEL
54 VCOF2
49 VCOF
61 BYTCK
CD-TEXT BUFFER
SUBCODE BUFFER
EFM DEMODULATION/ SYNC INTERPOLATION SUBCODE DEMODULATION
DSL/PLL VCO
DIGITAL DE-EMPHASIS
8 TIMES OVERSAMPLING DIGITAL FILTER
1 BIT DAC PWM LOGICS
PWM (R)
PWM (L)
OUTR 75
RCH
OUTL 73
TO MAIN UNIT
CD SIGNAL
FLAG 65
IPFLAG 64
TX 6
TX
16K SRAM
CIRC ERROR CORRECTION/ DEINTERLEAVE
DIGITAL AUDIO INTERFACE
DIGITAL AUDIO INTERFACE
ECM 24
ECM
ECS 25
ECS
PC 23
PC
INTERPOLATION/ SOFT MUTING/ DIGITAL ATTENUATION
LRCK 2
SRDATA 3
BCLK 1
DMUTE 16
DSLF2 42
DSLF2
KICK 26
TRV 21
D/A CONVERTER
VREF 29
+B
TVD 22
TVD
TRD 27
TRD
FOD 28
FOD
OUTPUT PORT
TBAL 31
TBAL
FBAL 30
FBAL
/TLOCK 12
/FLOCK 11
MICRO COMPUTER INTERFACE
SERVO CPU
VCO
TIMING GENERATOR PITCH CONTROL
A/D CONVERTER
INPUT PORT
SERVO TIMING GENERATOR
SMCK 19
FCLK 63
CSEL 20
X2 OUT 59
X1 IN 58
FE 32
TE 33
RFENV 34
TRCRS 37
VDET 35
BDO 39
/RFDET 38
OFT 36
SENSE 10
/RST 18
LDON 40
WVEL 43
X701 (16.9344 MHz)
Q702 SWITCH
Q703 SWITCH
-B
+B
FE
TE
ENV
BDO
/RFDET
OFT
/RST
LDON

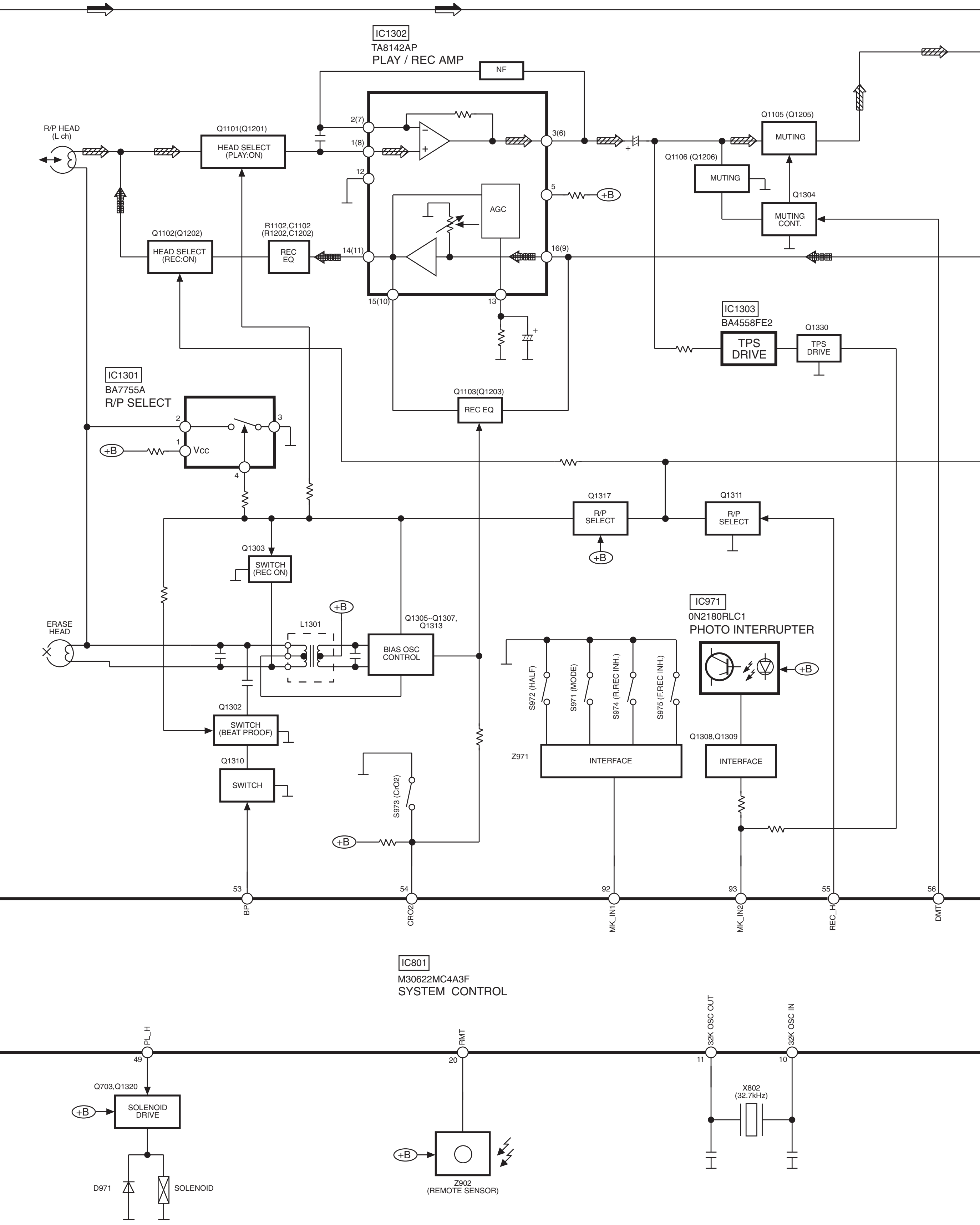

IC1
AN8772FHQ
RF AMP
MD OPTICAL PICKUP
SVREF
ARFO
EQ IN
CRF AGC
OUT RF
CEA
NRFSTBY
RFCK
RFDAT
RFDATA
NRFLD
OFTR
NRFDET/OFTR
VCC
GND
+B
VREF
RF1
RF2
F1
F2
CLPF2
A
B
CLPF1
C
CENVC
D
E
I
J
SW
AGC
EQ
SELECT SIGNAL
SERIAL & PARALLEL CONV./GATE
DARK DET.
3T DET.
NRFDET
RF BDO
AS BDO
COMP
3 TAP
4 TAP
11 TAP
VCA
TBAL
B.P.F.
OFT IN
OFT O
CBD O
BDO/TRCRS
TRCRS
AS GAIN
AS/MON3T
AS
LNP
AB GAIN
TE
CRS IN
TGAIN
FE
FBAL
LDO
APC PD
LD IN
APC REF
TEMP IN
TEMP
ADIP
TBAL
TOFS
Q1
LASER POWER DRIVE
VR1 (LASER POWER ADJ.)
Q2
REC DRIVE
TH1
NRECT
Q3
POWER SUPPLY
HFON1
TRACKING COIL
FOCUS COIL
M2 TRAVERSE MOTOR
M1 SPINDLE MOTOR
M
VO4-
VO4+
VO3-
VO3+
VO2-
VO2+
VO1-
VO1+
DIRECTION DET.
1/2 PVCC
VCC DET.
VREF
IN4
1/2 PVCC1
PVCC2
IN3
PC2
1/2 PVCC2
IN2
PVCC1
PC1
IN1
VCC
PGND1
PGND2
Q5,Q6
POWER SUPPLY
TRD
PC
FOD
TVON
TVD
SPON
SPD
IC2
AN8814SB-E1
FOCUS/TRACKING COIL, SPINDLE/TRAVERSE MOTOR DRIVE

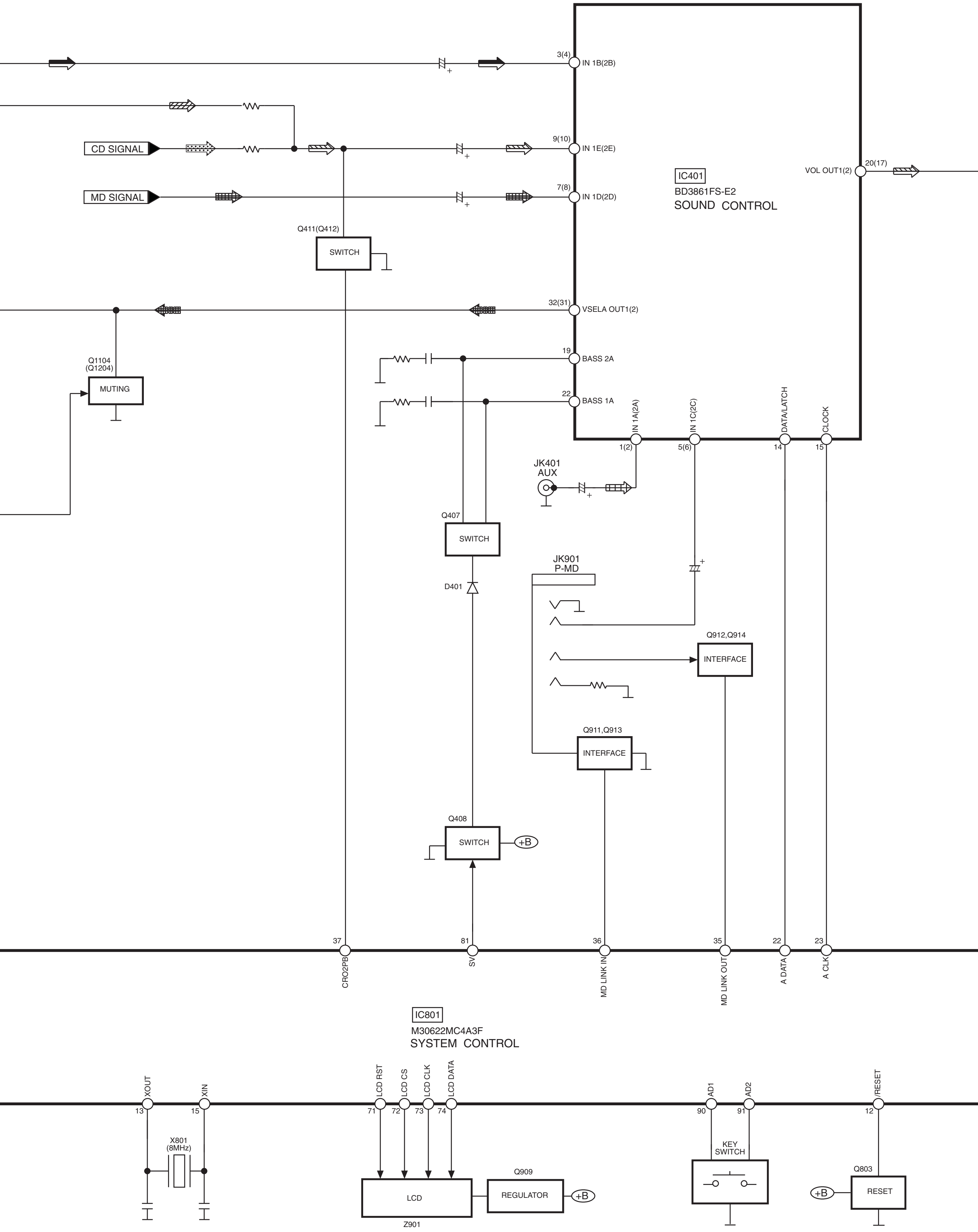

IC11
TC74HCT00AFL
NAND GATE
IC72
M51V4400D7FS
4M DRAM
Q10,Q11
L700
MAGNETIC
HEAD
HEAD
DRIVE
NEFMON
VCC
13
+B
VSS
26
D01~04
A0~9
RAS
CAS
WE
1,2,
24,25
5,
9~12
14~48
4
23
3
IC9
RN5RZ26BA-TR
REGULATOR
+B
73
43~46
33~43
47
48
49
69
79~
81
78
REFM
RDT0~3
RAD0~12
NRAS
NCAS
NWE
TX
TS0~2
TS3
DIGITAL
OUT
CHIP CONTROL
MONI0~3
74~77
NRST
50
MSPMDARST
72
NREFM
97
PEFMS
94
REFM1
95
EFMIREF
96
EFMPLLF
EFMMOD/
EFMDEM/
EFMPLL
EXTERNAL RAM
CONTROL
APC GEN.
APCD
92
APC REF
NRECT
26
NRECT
SCTSY
56
SCTSY
MDISY
55
MDISY
ADIP
1
ADIP
ADIP DEM/FM DEM
ECC SPM
CONTROL
ATRAC DIGITAL
SIGNAL
PROCESSOR
MICRO
COMPUTER
SERIAL
INTERFACE
SSCK
52
SSCK
SELAD
51
SELAD
SSDW
53
SSDW
SSDR
54
SSDR
SGSYNC
57
SGSYNC
SPON
22
SPON
TVON
23
TVON
APC REF
92
APCD
OFTR
91
OFTR
TRCRS
90
TRCRS
100
TEFSEL
25
FG
DIGITAL
SERVO
PROCESSOR
RFDAT
87
RFDAT
RFCK
88
RFCK
NRFLD
89
NRFLD
RFIC
SERIAL INTERFACE
SELECTOR
DIGITAL
IN
DIN PLL
RX1
70
RX2
71
FS
CONVERTER
AS GAIN
14
ASGAIN
AB GAIN
15
ABGAIN
FBAL
11
FBAL
TOFS
10
TOFS
TBAL
12
TBAL
8
AMONI
TGAIN
13
TGAIN
FOD
18
FOD
TRD
19
TRD
TVD
20
TVD
SPD
21
SPD
D/A
CONVERTER
MASTER
PLL
CLOCK
GEN.
XO
85
XI
84
X2
(16.9344 MHz)
CD & ADC/DAC INTERFACE
AVDD0,1
16,98
+B
IVDD0~2
28,59,27
+B
DVDD0~2
24,58,83
+B
AVSS0,1
17,99
DVSS0,1
29,60
+B
9
VREF
A/D CONVERTER
AS
FE
TE
LNP
BAT
DRMONI
HFRP
EXEFMCK
FS384
SCL
SWS
SDAP
SDAR
EXSYSCK
DATA
BCK
LRCK
5
3
4
2
7
6
93
61
62
63
64
65
82
68
67
66
IC3
MN66616RA4
ATRAC ENCODER/DECODER,
SERVO SIGNAL PROCESSOR
AS
FE
TE
LNP
CRS IN
FS384
SCL
SWS

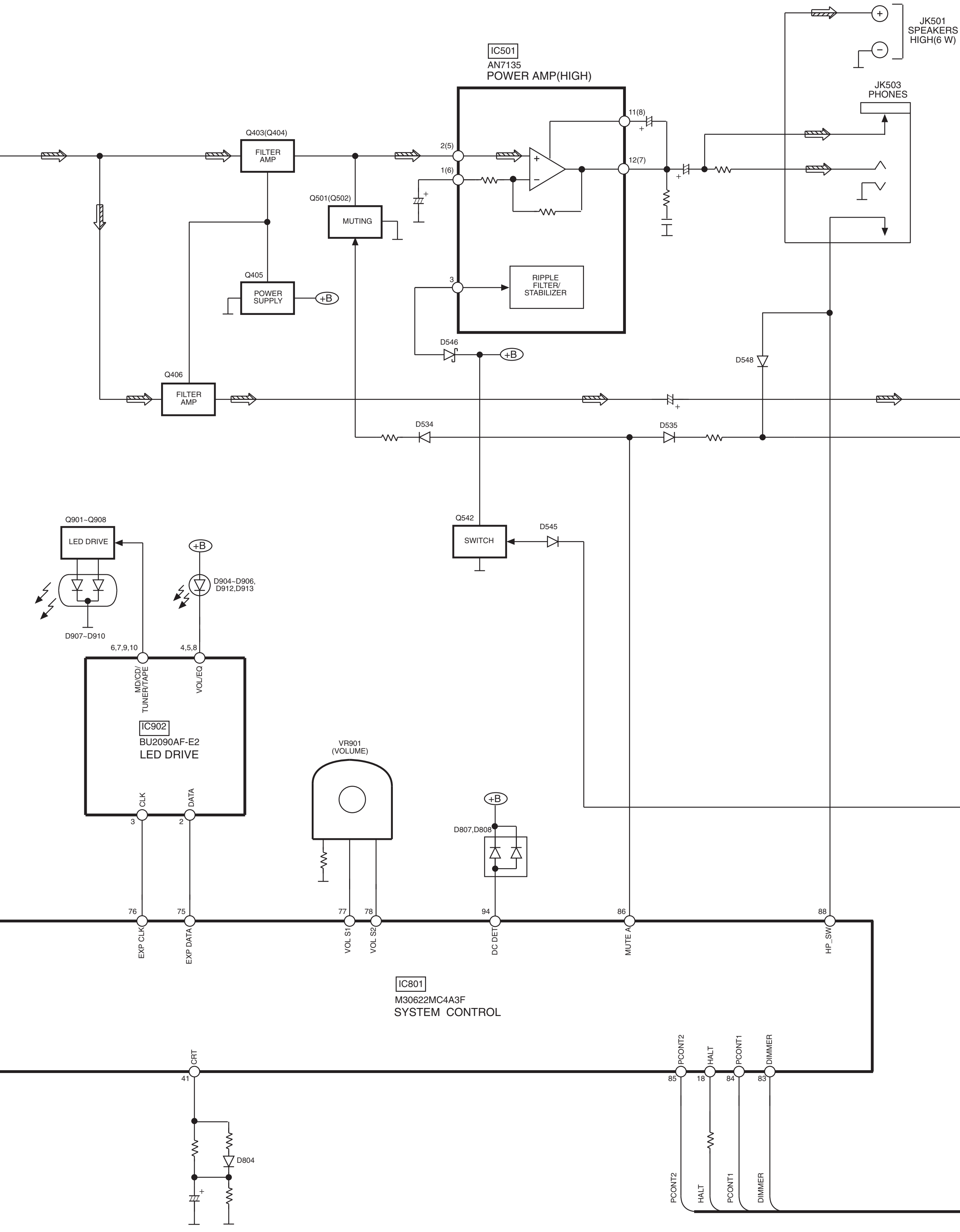

IC4
AK4518VF-E2
AD/DA CONVERTER
+B
1 2 23 24 14 13 22
VRDA VRAD VB VA VD DGND AGND
FS384
9 MCLK
CLOCK DIVIDER
+B
16 CMODE
SWS
10 LRCK
SCL
11 SCLK
12 SDTO
15 SDTI
SERIAL I/O INTERFACE
DECIMATION FILTER
ΔΣ MODULATOR
DECIMATION FILTER
ΔΣ MODULATOR
COMMON VOLTAGE
SERIAL I/O INTERFACE
ΔΣ MODULATOR
L.P.F.
8x INTERPOLATOR
ΔΣ MODULATOR
L.P.F.
AINL 6
VCML 5
AINR 3
VCMR 4
VCOM 21
AOUTL 19
AOUTR 20
RCH
MD SIGNAL
RCH
/PWAD /PWDA DEM0 DEM1
7 8 18 17
IC5
RN5RG33AA-TL
Q13
+B
REGULATOR
REGULATOR
3
7 1
5 3
RX1
IC6
TC7W04FTE12L
INVERTER
TO MAIN CIRCUIT
A
S3 S7 S5 S6 S1 S2 S4 S8
LOADSW
MD REQ
MD SYSRST
CS
DATA0
MD DATA_IN
MD CLK
D9
X1
(10.02 MHz)
+B +B +B
33 32 4 69 1 70 2 31 34, 37 15 16 17 18 19 14 13 12 26 20 41 21 52 51 50 49
OSC2 OSC1 ADRST VCC3V DACRST VCC5V DEO VDD2 VSS
LOAD SW0(OPEN)
LOAD SW1(TRG)
LOAD SW2(PLAY/REC)
LOAD SW3(PLAY)
PROTECT REFLECT DISC IN TV SW RST MMOD
EEP DATA
PANEL CS PANEL CS PANEL DATAO PANEL DATAI PANEL CLK
IC10
MN101D03DAA1
SYSTEM CONTROL
VREF- TEMP SS DW SS DR SSCLK NEFMON SELAD PC MDISY SCTSY CFSYNC HFON MSP RST NRF STBY TEST07 LOAD0 LOAD1 LED OUT1 LED OUT2 LED OUT3 KEY1 KEY2 LCDCK
ADRS TEST RXD
60 61 56 55 54 10 53 6 25 24 44 48 7 5 46 9 10 27 28 29 62 63 57 58
-B
+B
TEMP SSDW SSDR SSCK NEFMON SELAD PC MDISY SCTSY SGSYNC HFON1 MSPMDARST NRFSTBY NRECT
9 10
CONTROL LOGIC
VCC 1
+B
GND 3
4 2
M
+ -
M3
LOADING
MOTOR
IC92
LB1830MS-TLM
LOADING MOTOR DIRVE


FM ANT
AM ANT
Z120
Q1
Q2
MIXER
RF AMP
Q3
OSC
Q4
BUFFER
+B
(FM)
CF201
Q101
FM IF AMP
CF202
Z101
AM ANT COIL
AM OSC COIL
(FM)
+B
RCH
ALC
AM OSC
AM MIX
AM RF AMP
BUFFER
AM RF AMP
LEVEL DET
S-CURVE
AM IF
AM DET
FM IF
FM DET
AM/FM IF BUFFER
COMP
TUNING DRIVE
DECODER
PHASE DET
PILOT CANCEL
STEREO SWITCH
VCO
FF
FF
FF
PILOT DET
REG
REG
SD
ST
+B
X102
Z102
AM IFT
IC101
LA1833NMNTLM
FM/AM IF AMP, DET/AM OSC, MIX/FM MPX
STEREO
SD
X103
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
UNLOCK DETECTOR
SWALLOW COUNTER 1/6,1/17, 4 BITS
1 2
12 BITS PROGRAMMABLE DIVDER
UNIVERSAL COUNTER
SHIFT REGISTER LATCH
C2B I/F
POWER ON RESET
+B
DO
CE
DI
CL
DO
CE
DI
CL
Q106
POWER SUPPLY (FM:ON)
+B
-B
(FM)
IC102
LC72131MDTRM
PLL FREQUENCY SYNTHESIZER
TO CD UNIT
E


IC802
TC74HCT7007A
3V-5V CONVERTER
STAT
BLKCK
SUBQ
TX
LOADING
MLD
MDATA
MCLK
/RST
S701
SQCK
1
2
5
6
3
4
11
10
RX1
8
9
CS
12
13
DATA0
LOAD SW
MD REQ
MD CLK
MD DATA_IN
MD SYSRST
A
TO MD CIRCUIT
Q701,Q702
SWITCH
D806
D805
33
5
2
3
4
1
61
60
57
58
40
29
34
38
28
30
39
32
19
21
CD_SQCK
CD_RESET
CD_REST SW
CD_MCLK
CD_MDATA
CD_MLD
OPEN_H
CLOSE_L
LCLOSE_H
LOPEN_L
MD_CS
MD_DATA_OUT
LOAD SW
MD REQ
MD CLK
MD_DATA_IN
MD RST
SUBQ
CD_BLKCK
CD_STATUS
STEREO
45
STEREO
SD
46
SD
DO
47
DO
CL
50
PLL CLK
DI
51
PLL DA
CE
52
PLL CE
IC801
M30622MC4A3F
SYSTEM CONTROL
CD_OPEN SW
TAPE EJECT
MOTOR_H
59
66
48
S790
(CD OPEN)
S950
Q1318,Q1319
MOTOR DRIVE
+B
M
+B
MOTOR
(DECK)

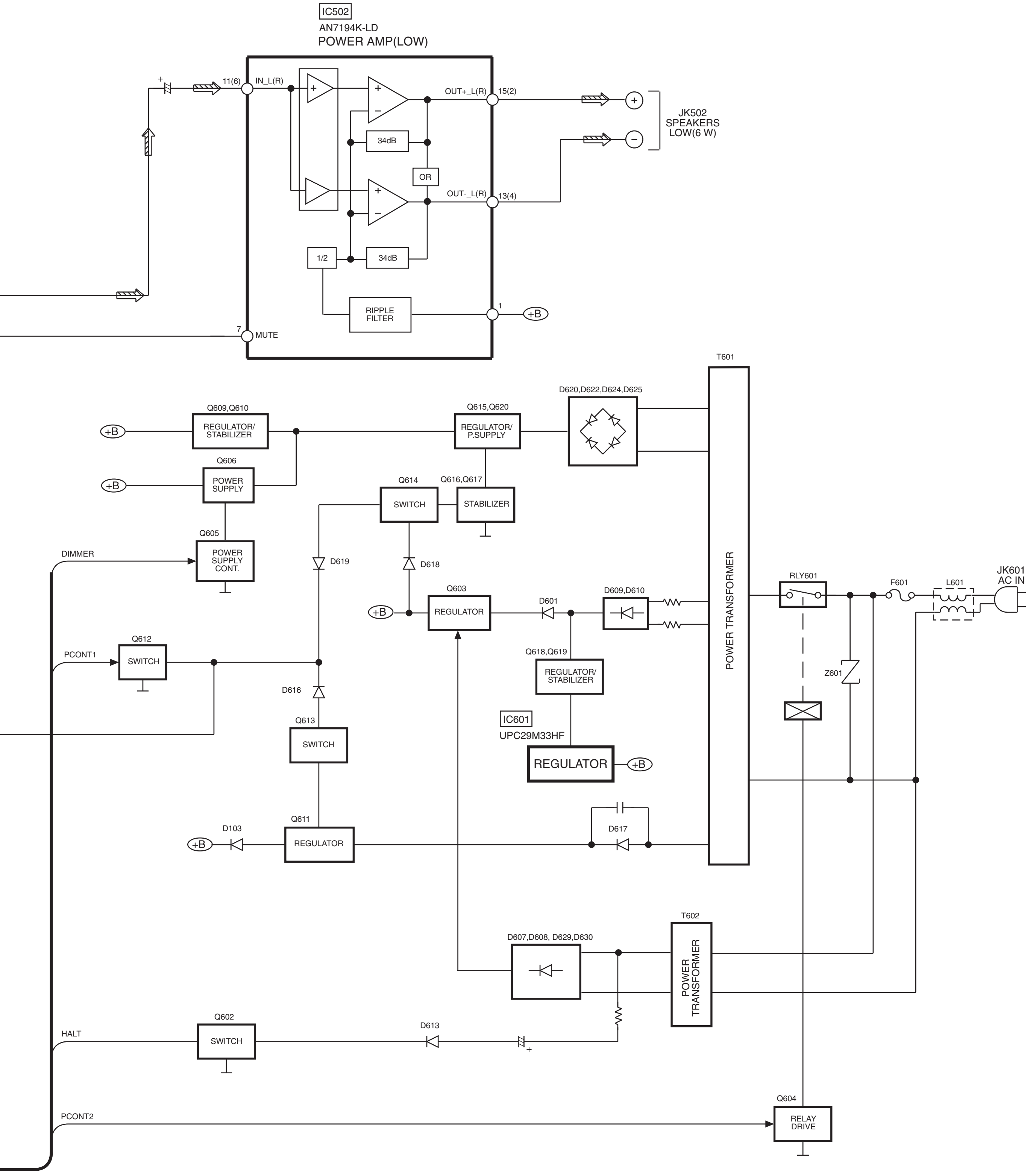

IC1302
TA8142AP
PLAY / REC AMP
NF
R/P HEAD
(L ch)
Q1101(Q1201)
HEAD SELECT
(PLAY:ON)
2(7)
1(8)
12
3(6)
5
+B
AGC
14(11)
16(9)
15(10)
13
Q1102(Q1202)
HEAD SELECT
(REC:ON)
R1102,C1102
(R1202,C1202)
REC
EQ
Q1105 (Q1205)
MUTING
Q1106 (Q1206)
MUTING
Q1304
MUTING
CONT.
IC1303
BA4558FE2
TPS
DRIVE
Q1330
TPS
DRIVE
IC1301
BA7755A
R/P SELECT
2
3
1
Vcc
4
+B
Q1103(Q1203)
REC EQ
Q1317
R/P
SELECT
+B
Q1311
R/P
SELECT
Q1303
SWITCH
(REC ON)
+B
L1301
Q1305~Q1307,
Q1313
BIAS OSC
CONTROL
ERASE
HEAD
Q1302
SWITCH
(BEAT PROOF)
Q1310
SWITCH
S973 (CrO2)
+B
S972 (HALF)
S971 (MODE)
S974 (R.REC INH.)
S975 (F.REC INH.)
Z971
INTERFACE
IC971
0N2180RLC1
PHOTO INTERRUPTER
+B
Q1308,Q1309
INTERFACE
53
BP
54
CRO2
92
MK_IN1
93
MK_IN2
55
REC_H
56
DMT
IC801
M30622MC4A3F
SYSTEM CONTROL
PL_H
49
RMT
20
32K OSC OUT
11
32K OSC IN
10
Q703,Q1320
SOLENOID
DRIVE
+B
D971
SOLENOID
+B
Z902
(REMOTE SENSOR)
X802
(32.7kHz)


3(4)
IN 1B(2B)
CD SIGNAL
9(10)
IN 1E(2E)
MD SIGNAL
7(8)
IN 1D(2D)
IC401
BD3861FS-E2
SOUND CONTROL
VOL OUT1(2)
20(17)
Q411(Q412)
SWITCH
32(31)
VSELA OUT1(2)
19
BASS 2A
22
BASS 1A
Q1104
(Q1204)
MUTING
IN 1A(2A)
IN 1C(2C)
DATA/LATCH
CLOCK
1(2)
5(6)
14
15
JK401
AUX
Q407
SWITCH
D401
JK901
P-MD
Q912,Q914
INTERFACE
Q911,Q913
INTERFACE
Q408
SWITCH
+B
37
CRO2PB
81
SV
36
MD LINK IN
35
MD LINK OUT
22
A DATA
23
A CLK
IC801
M30622MC4A3F
SYSTEM CONTROL
XOUT
XIN
13
15
X801
(8MHz)
LCD RST
LCD CS
LCD CLK
LCD DATA
71
72
73
74
LCD
Z901
Q909
REGULATOR
+B
AD1
AD2
90
91
KEY
SWITCH
/RESET
12
Q803
+B
RESET

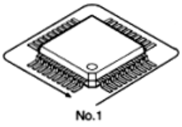

JK501
SPEAKERS
HIGH(6 W)
IC501
AN7135
POWER AMP(HIGH)
JK503
PHONES
Q403(Q404)
FILTER AMP
11(8)
2(5)
1(6)
12(7)
Q501(Q502)
MUTING
Q405
POWER SUPPLY
+B
3
RIPPLE FILTER/ STABILIZER
D546
+B
D548
Q406
FILTER AMP
D534
D535
Q901~Q908
LED DRIVE
+B
Q542
SWITCH
D545
D904~D906,
D912,D913
D907~D910
6,7,9,10
4,5,8
MD/CD/ TUNER/TAPE
VOL/EQ
IC902
BU2090AF-E2
LED DRIVE
CLK
DATA
3
2
VR901
(VOLUME)
+B
D807,D808
76
75
77
78
94
86
88
EXP CLK
EXP DATA
VOL S1
VOL S2
DC DET
MUTE A
HP_SW
IC801
M30622MC4A3F
SYSTEM CONTROL
CRT
41
PCONT2
HALT
PCONT1
DIMMER
85
18
84
83
D804
PCONT2
HALT
PCONT1
DIMMER

SIGNAL LINES

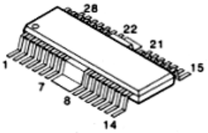
⇨	: MAIN SIGNAL LINE	⇨	: CD SIGNAL LINE	➡	: AM SIGNAL LINE	⇨	: PLAYBACK SIGNAL LINE
⇨	: FM OSC SIGNAL LINE	➡	: AM OSC SIGNAL LINE	⇨	: FM & AM SIGNALS LINE	⇨	: RECORDING SIGNAL LINE
⇨	: FM SIGNAL LINE	⇨	: AUX SIGNAL LINE	⇨	: MD SIGNAL LINE	⇨	: MD REC SIGNAL LINE


IC502
AN7194K-LD
POWER AMP(LOW)
11(6)
IN_L(R)
OUT+_L(R)
15(2)
34dB
OR
OUT-_L(R)
13(4)
1/2
34dB
RIPPLE FILTER
1
+B
7
MUTE
JK502
SPEAKERS
LOW(6 W)
T601
D620,D622,D624,D625
Q609,Q610
REGULATOR/ STABILIZER
Q615,Q620
REGULATOR/ P.SUPPLY
+B
Q606
POWER SUPPLY
+B
Q614
SWITCH
Q616,Q617
STABILIZER
Q605
DIMMER
POWER SUPPLY CONT.
D619
D618
Q603
+B
REGULATOR
D601
D609,D610
POWER TRANSFORMER
RLY601
F601
L601
JK601
AC IN
Q612
PCONT1
SWITCH
Q618,Q619
REGULATOR/ STABILIZER
D616
Z601
IC601
UPC29M33HF
Q613
SWITCH
REGULATOR
+B
Q611
D103
+B
REGULATOR
D617
T602
D607,D608, D629,D630
POWER TRANSFORMER
Q602
HALT
SWITCH
D613
Q604
PCONT2
RELAY DRIVE

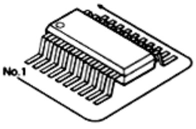
AN8772FHQ (48P)
MN66616RA4 (100P)
MN662790RSC (80P)
M30622MC4A3F (100P)
MN101D03DAA1 (80P)



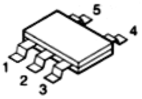
AN8814SB-E1
BA5948FPE2


28
22
21
15
1
7
8
14

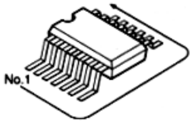
AK4518VF-E2 (24P)
LB1830MS-TLM (10P)
LA1833NMN-TLM (24P)
LC72131MDTRM (20P)
BU2090AF-E2 (16P)
AN8839NSBE2 (28P)



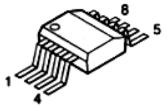
RN5RG33AA-TL
RN5RZ26BA-TR



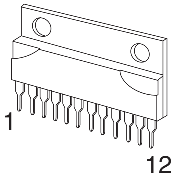
TC74HCT00AFL (14P)
TC74HCT7007A (14P)



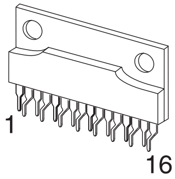
TC7W04FTE12L



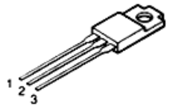
AN7135



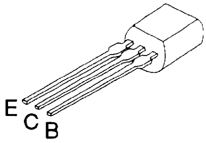
AN7194K-LD



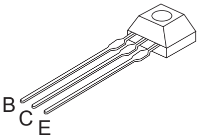
UPC29M33HF



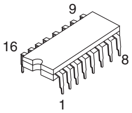
KTA1504GRTA
KRC101MTA



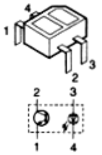
KRA102MTA
KRC102MTA
KRC110MTA
KRC113MTA
KRC119MTA
KRA110MTA
KRA119MTA



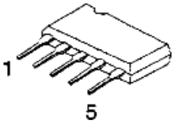
TA8142AP



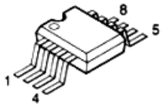
0N2180RLC1



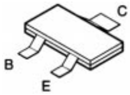
BA7755A



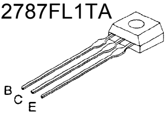
BA4558FE2



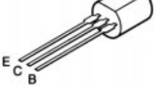
2SA1037AKSTX
2SB1295-6-TB
2SB1462STX
KTC3875GRTA
KRC104STA
DTC143XKA146
DTC114YETL
DTA143XKA146



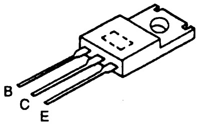
2SA933SSTA
KTC3199GRTA
2SD2144STA
2SC2786MTA
2SC2787FL1TA



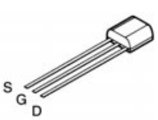
2SD592ARTA
2SA952LTA
2SC1845FTA
2SD965RTA
2SC2001LTA



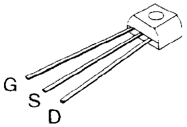
KTC2026□
KTA1046



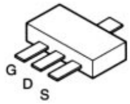
2SJ498CTA



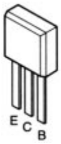
2SK544F-AC



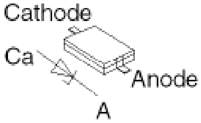
2SJ278MYTR
2SK1764KYTR



2SB1030RTA
2SC2058SPTA



1SS355TE17
UDZSTE175R1B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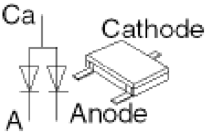
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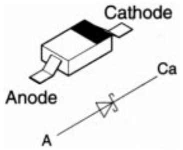
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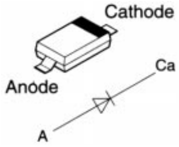
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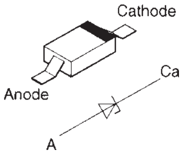
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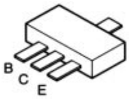

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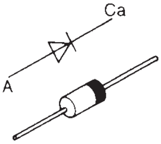

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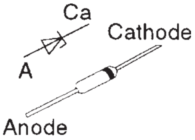
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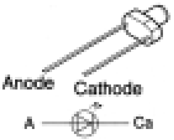
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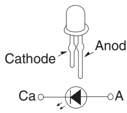
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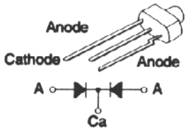
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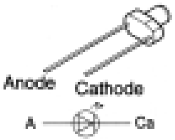
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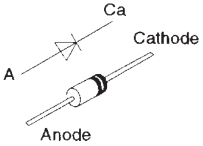
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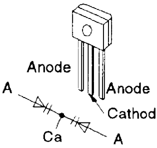
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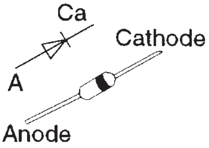
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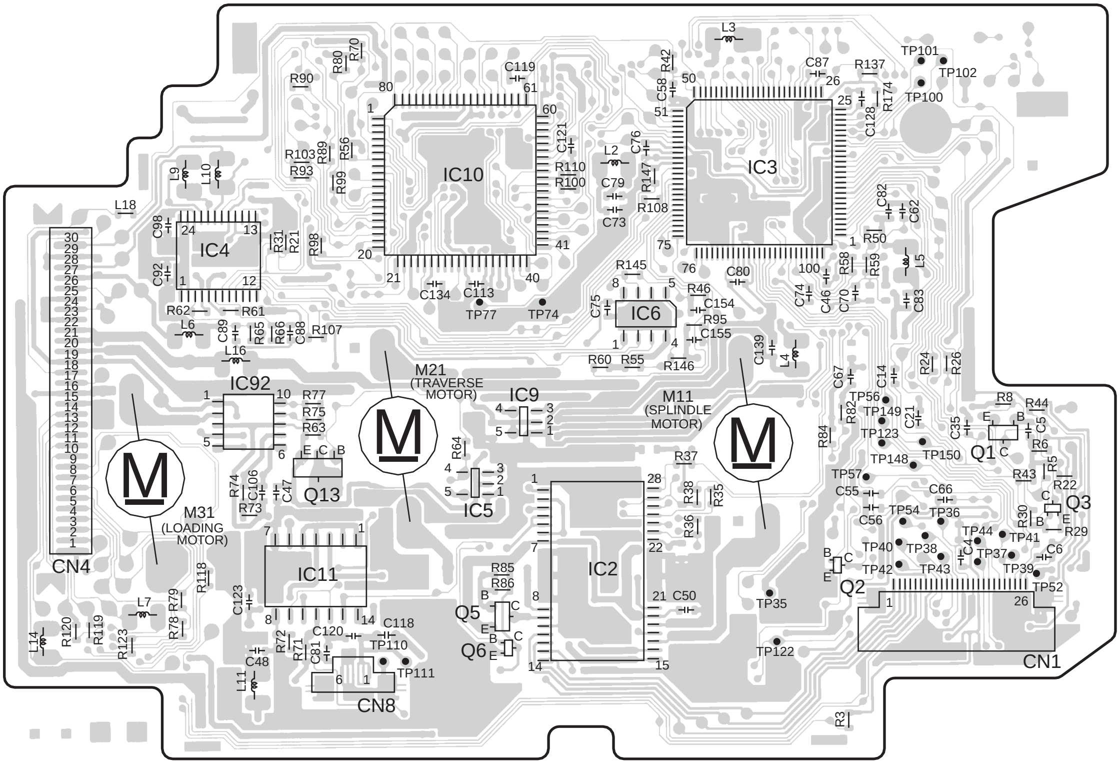
Anode

A B C D E F G

1 2 3 4 5 6 7 8 9

A MD SERVO P.C.B SIDE-A (REP2895A-T)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IC4
IC6
IC92
IC9
IC5
IC11
IC2
Q1
Q2
Q3
Q5
Q6
Q13
CN1
CN4
CN8
M
M21
(TRAVERSE
MOTOR)
M11
(SPLINDLE
MOTOR)
M31
(LOADING
MOTOR)
L2
L3
L4
L5
L6
L7
L9
L10
L11
L14
L16
L18
R3
R5
R6
R8
R21
R22
R24
R26
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C5
C6
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C120
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C123
C128
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C139
C154
C155
TP35
TP36
TP37
TP38
TP39
TP40
TP41
TP42
TP43
TP44
TP52
TP54
TP56
TP57
TP74
TP77
TP100
TP101
TP102
TP110
TP111
TP122
TP123
TP148
TP149
TP150
E C B

■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
A MD SERVO P.C.B. (SIDE:A)													
IC2	4D	L14	5A	TP74	3D	R36	4E	R75	4C	R137	2F	C75	3D
IC3	2E	L16	3B	TP77	3D	R37	4E	R77	4C	R145	3D	C76	2D
IC4	3B	L18	3B	TP100	2F	R38	4E	R78	5B	R146	3E	C79	2D
IC5	4D	CN1	5F	TP101	2F	R42	2E	R79	5B	R147	2D	C80	3E
IC6	3D	CN4	3A	TP102	2F	R43	4F	R80	2C	R174	2F	C81	5C
IC9	4D	CN8	5C	TP110	5C	R44	4G	R82	4F	C4	4G	C82	3F
IC10	2C	M11	4E	TP111	5C	R46	3E	R84	4E	C5	4F	C83	3F
IC11	4C	M21	4C	TP122	5E	R50	3F	R85	4D	C6	4G	C87	2E
IC92	4B	M31	4B	TP123	4F	R55	3D	R86	5D	C14	3F	C88	3C
Q1	4F	TP35	5E	TP148	4F	R56	2C	R89	2C	C21	4F	C89	3B
Q2	4E	TP36	4G	TP149	3E	R58	3F	R90	2C	C35	4F	C92	3B
Q3	4G	TP37	4G	TP150	4E	R59	3F	R93	2C	C46	3F	C98	3B
Q5	5D	TP38	4G	R3	5F	R60	3D	R95	3E	C47	4B	C106	4B
Q6	5D	TP39	4G	R5	4G	R61	3B	R98	3C	C48	5B	C113	3D
Q13	4C	TP40	4G	R6	4F	R62	3B	R99	2C	C50	5E	C118	5C
L2	2D	TP41	4G	R8	4F	R63	4C	R100	2D	C55	4F	C119	2D
L3	2E	TP42	4G	R21	3C	R64	4C	R103	2C	C56	4F	C120	5C
L4	3E	TP43	4G	R22	4G	R65	3B	R107	3C	C58	2E	C121	2D
L5	3F	TP44	4G	R24	3F	R66	3B	R108	2D	C62	3F	C123	5B
L6	3B	TP52	4G	R26	3F	R70	2C	R110	2D	C66	4G	C128	2F
L7	5B	TP54	4G	R29	4G	R71	5C	R118	4B	C67	3F	C134	3C
L9	2B	TP56	4F	R30	4G	R72	4B	R119	5A	C70	3F	C139	3E
L10	2B	TP57	4F	R31	3B	R73	4B	R120	5A	C73	3D	C154	3E
L11	5B			R35	4E	R74	4B	R123	5B	C74	3E	C155	3E